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EVERY MAN HIS OWN DOCTOR.

A FAMILY MEDICAL ADVISER;

CONTAINING KNOWLEDGE THAT WILL

Promote Health, Cure Disease and Prolong Life,

WITH

A COMPLETE INDEX,
DESCRIBING ALL DISEASES,
AND TEACHING HOW TO CURE THEM
BY THE SIMPLEST MEDICINES.

ALSO,

AN ANALYSIS OF EVERYTHING RELATING TO COURTSHIP, MARRIAGE, AND THE PRODUCTION, MANAGEMENT, AND REARING OF HEALTHY FAMILIES.

AND

A CHAPTER ON THE PREPARATION OF MEDICINES, GIVING PRESCRIPTIONS AND VALUABLE RECEIPTS, WITH A SECTION EXPLAINING THE BOTANICAL PRACTICE AND THE POPULAR USE OF HERBS.

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AUTHOR'S PREFACE.

BENJAMIN FRANKLIN, in his pithy style, has said that "an ounce of prevention is worth a pound of cure." He was right. The great All Wise has created human beings with such noble faculties as to be truly but a little lower than the angels. Did the parents and guardians of children but realize the immensity of the responsibility entailed upon them, they would not lose an instant before they acquired such a knowlege of at least the first principles of medicine as to be able to judge intelligently of the causes leading to disease, and the most rational steps to take to arrest its ravages. The purpose of this work is to fully inform every woman and man—young and old—what are the *real causes of sickness*, and what are the most approved methods of treatment. The work is especially designed as an aid to home or domestic treatment in the thousand cases where a physician cannot readily be reached, and when, if ordinary common sense is used, his services are not required.

We have never discarded a single item of what we deemed useful information, because its author was a disciple of this or that particular school of medicine. On the contrary, we have acted upon the idea, "By their works ye shall know them." Wherever any mode of treatment, whether new or old, has been found and *verified*, it is incorporated in this book.

The writer wishes this work to make an honored mark, from its merits, and its intelligent method and arrangement; and, above all, from the fact that it comprises *all* that is valuable in every other popular medical guide, added to *hundreds* of new principles and new methods—modes of cure that have been "tried in the fire" of *every-day practice*, and have "never been found wanting."

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Weights and Measures, etc.

APOTHECARY'S WEIGHT.

20 grains	=	1 scruple	=	20 grains.
60 grains	=	1 drachm	=	3 scruples.
480 grains	=	1 ounce	=	8 drachms.
5,760 grains	=	1 pound	=	12 ounces.

The scruple and drachm are discarded in the new weights. Measures of capacity are used for liquids in mixing medicines. Formerly wine measure was employed, but now it is the imperial. The weight of the imperial minim of water is 91 grains, and is multiplied as follows:

60 minims	=	1 fluid drachm	=	60 minims.
480 minims	=	1 fluid ounce	=	8 fluid drachms.
9,600 minims	=	1 pint	=	20 fluid ounces.
76,800 minims	=	1 gallon	=	8 pints.

The fluid ounce is the measure of one ounce of water; the pint, 1¼ lb.; and the gallon, 10 lb. In prescriptions the weights and measures are generally expressed by signs or symbols, with Latin numerals affixed. These signs, with the Latin and English words which stand for them, are given below:

m Minim, $\frac{1}{60}$th part of a fluid drachm.
℈j Scrupulus, a scruple.
ʒj Drachma, a drachm.
fʒj Fluid drachma, a measured drachm.
℥j Uncia, an ounce (437.5 grains).
f℥j Fluid uncia, a measured ounce.
℔j Libra, a pound (7,000 grains).
Oj Octarius, a pint.
gr Granum, a grain.
ss Semis, half, affixed to any of the above signs.

The numerals j., i.j, iij., iv., v., etc., show the number of grains, ounces, pounds, etc., to be taken; thus, *m*lx. denotes 60 minims, ʒ vii. 7 drachms, and ℥j. 1 ounce.

ON ADMINISTERING MEDICINES.

In prescribing or administrating medicines, the following circumstances are always kept in view by medical men, and are of the utmost importance, viz., Age, Sex, Temperament, Habit, Climate, amd Condition of the Stomach.

Age.—See the table of proportionate doses given on the following page; remembering that all medicines containing opium affect children more powerfully than adults.

Sex.—Women require smaller doses than men; and are also more quickly affected by purgatives.

Temperaments.—Stimulants and purgatives more readily affect the florid or sanguine than the pale or phlegmatic; consequently the former require smaller doses.

Habits.—Persons in the habitual use of stimulants and narcotics require larger doses of such remedies to affect them, when laboring under disease, than others not so accustomed; or those who have habituated themselves to saline purgatives, such as Epsom Salts, are more easily affected by such remedies.

Climate —Medicines act differently on the same person in summer and winter,

and in different climates. Narcotics act more powerful in hot than in cold climates, hence smaller doses must be given in the former; but the reverse is the case with respect to calomel, consequently larger doses are required in hot climates.

Condition of the Stomach.—The least active remedies operate violently on some persons, owing to a peculiarity of stomach or disposition of body unconnected with temperament. In giving medicines, the medical man always so regulates the intervals between doses that the following dose may be taken before the effect produced by the former is altogether effaced. By not attending to this rule, the cure is always commencing, but never rapidly proceeding—it may, indeed have no effect at all. It is to be borne in mind, at the same time, that some medicines, such as mercury, etc., are apt to accumulate in the system, and danger may thence arise if the doses be repeated too frequently. Aloes and castor oil acquire greater activity by use, so that the dose requires to be diminished. With due caution, and a proper attention to the doses ordered, no untoward circumstance need arise.

Emotions and Passions of the Mind have a most powerful influence upon the disorders of the body. *Hope* is a mildly stimulating or tonic feeling, which is most beneficial in all cases. The influence of the *imagination* on disease has long been known, and the extraordinary cures we constantly hear of as affected by such absurd means as homœopathy, mesmerism, etc., are, in fact, all referable to the influence of the imagination over a diseased body or disordered mind.

DOSES PROPER FOR DIFFERENT AGES.

Ages.	Proportional Doses.	Dose.
For an Adult .	. . Suppose the dose One .	. as 1 drachm or 60 grains.
Under 1 year .	. . Will require only $\frac{1}{12}$.	. " 5 grains.
" 2 years .	. . ——————— $\frac{1}{8}$.	. " 8 "
" 3 " .	. . ——————— $\frac{1}{6}$.	. " 10 "
" 4 " .	. . ——————— $\frac{1}{4}$.	. " 15 "
" 7 " .	. . ——————— $\frac{1}{3}$.	. " 1 scruple or 20 grains.
" 14 " .	. . ——————— $\frac{1}{2}$.	. " $\frac{1}{2}$ drachm or 30 "
" 20 " .	. . ——————— $\frac{2}{3}$.	. " 2 scruples or 40 "
Above 21 " .	. . The full dose One .	. " 1 drachm.
" 65 " .	. . Will require only $\frac{3}{4}$.	. " 45 grains.
" 80 " .	. . ——————— $\frac{2}{3}$.	. " 2 scruples or 40 grains.

In the same manner for fluids divide the quantity suited for an adult by the above fractional parts. If for a child under one year, the dose will be one-twelfth; under two years, one-eighth; under three years, one-sixth, and so on.

APPROXIMATE MEASURES.

For the convenience of those who have not accurate measures at hand, we give the approximate quantities:

A teacup contains four fluid ounces, or one gill.
A wine glass contains two fluid ounces.
A tablespoon contains one-half fluid ounce.
A teaspoon contains one-eighth fluid ounce, or one drachm.
Sixteen large tablespoonfuls make half a pint.
Eight " " " one gill.
Four " " " half gill.
Twenty-five drops are equal to one teaspoonful.



THE HUMAN VISCERA.

PART I.

General Diseases.

THE ANATOMY, STRUCTURE, AND FUNCTIONS OF THE SKIN.

Although apparently very simple in its structure, the skin is nevertheless a very compound organ; and when we consider the important functions it performs, and its relations to the rest of the body, we shall not be surprised at this. It is not only the seat of common sensation, but by means of the vapor it constantly emits in the form of perspiration, it becomes the great regulator of the heat of the body. For these purposes it is supplied with nerves, blood-vessels, and glands.

On examining a portion of skin from the palm of the hand, or sole of the foot, from without inwards, we find that externally it presents a number of furrows, or lines, which are tolerably constant in particular parts of the body. On the elevations between these lines are seen a number of minute openings (*b b*) which are the terminations of the glands (*d d d*) that yield perspiration. These furrows and pores are in the upper layer of the skin, called epidermis (*c c*) or scarf skin. This membrane is in some parts very thin, not exceeding the one two-hundred-and-fortieth part of an inch in thickness, whilst in others, as in the sole of the foot and the palm of the hand, it is at least one-twelfth of an inch thick. It is this portion of the skin which is elevated when what are called blisters are formed. When examined with the microscope, it is found to consist of minute flat cells, which have been formed be-

FIG. 1.

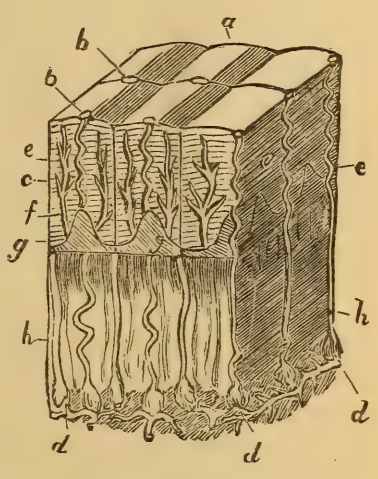


Diagram of the Structure of the Skin.

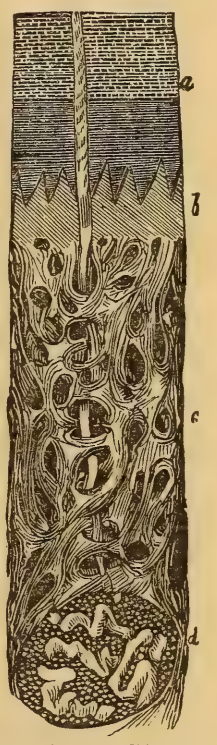
a, Epidermis; *b b*, Pores; *c c*. Layers of epidermis and rete mucosum; *f*, Inhalent vessels; *g g*, Papillæ of the skin; *h h*, Corium or true skin; *d d d*, Bulbs of sudoriferous glands opening in the glands *b b*.

low, and are gradually thrust upwards. Below this, but for the most part continuous with it, is another series of layers of cells (*c c*), and which were called, at one time, by the name *rete mucosum*, as it was supposed to be a separate membrane. The real nature of these layers of cells is, that they are all secreted on the surface of a tough fibro-vascular membrane, called the *corium* or true skin (*h h*). The cells of the lower layer, called the rete mucosum, are softer and much less compressed than those which form the epidermis. It is amongst these cells that a certain set are found which are termed pigment cells. When separated they have a very distinct form, and are easily distinguished from all the other cells by their dark color. This dark color is dependent on the presence, in the cells, of a number of flat, rounded, or oval granules, not more than the one twenty-thousandth of an inch in diameter. Now it is found that these cells are always present in the skin of the dark-colored races of mankind, and also in those parts of the skin of fair races which are of a dark color. It is, then, to the presence or absence of these cells that the skin is indebted for its white or black color. Where they are very abundant, the skin has a black color; and in proportion to their diminution are the various shades called red, yellow, brown, brunette, which are observed amongst the various races of mankind. The skin is provided with two distinct sets of glands. One is destined to free the blood of a large quantity of fluid, and are named the perspiratory or sweat glands; the other being designed to draw off a considerable amount of solid matter, and are styled sebaceous or oil glands. The watery vapor which is constantly passing off through the pores of the skin—when not, as is commonly the case, in such quantity as to be noticed—is termed *insensible perspiration;* when so profuse as to collect in drops on the surface, it is *sensible perspiration* or *sweat.* The fluid which thus passes off from the system consists chiefly of water, with a small proportion of muriate of soda and free acetic acid; the quantity is at all times very considerable, but is greatly increased during violent exercise, or in hot weather. We give on page 19 a cut of one of the glands by which the perspiration is secreted. The sweat gland is seen to possess a twisted duct which passes upward to the surface, and through this tube ascends to the surface the perspiration, sensible and insensible. It is calculated that there are no less than twenty-eight miles of this tubing on the surface of the human body, and that, on an average, from two to three pounds of water daily reach the sur-

face through these channels, and is evaporated. It is supposed that at least one hundred grains of effete nitrogenous matter are daily thrown off from the skin. If this excretion be checked or arrested, it throws additional labor on the kidneys; if it remains in the blood, it will prove fatal to life and health. Great attention, therefore, should be given to the functions of the skin, so as to keep the pores open and its action free; and for this purpose nothing is so efficacious as bathing in cold water, followed by friction and exercise.

Beside this beautiful arrangement for the perspiration, the skin is provided with another set of special organs, named sebaceous glands, whose office it is to withdraw a peculiar fatty matter from the system, while the secretion itself prevents the skin from being dried and cracked by the influence of the sun and air. These glands are distributed more or less closely over the whole surface of the body, but are most numerous in those parts which are largely supplied with hair, such as the scalp and face, and are thickly distributed about the entrances of the various passages into the body, as the anus, nose, lips, and external ear. They are altogether absent in the palms of the hands and the soles of the feet, As the engraving very nicely indicates, they appear to be made up of an aggregate of small vesicles, and these small vessels are filled with an opaque white substance, something like soft ointment. These glands are overspread with minute capillaries or blood-vessels, and their ducts open either in the surface of the skin, or, which is more usual, directly into the follicle of the hair. These hair-follicles, into which the sebaceous glands open, are, in fact, among the secretory organs of the skin, since it is only at their root or lowest part that the material produced from their walls is appropriated to the growth of hair. All the rest goes to anoint the hairs and the surface of the skin. Hence it is that this secretion is much more abundant in the inhabitants of tropical climates than in those which inhabit cold countries. But for this benevolent provision of the great Creator, the skin would become parched and

FIG. 2.



A Sweat Gland.

A vertical section of the sole of the foot—*a*, the Cuticle or Scarf Skin, the deeper layers of which, dark in color, being called the *rete mucosum*; *b*, the *Papillæ*; *c*, the *Cutis* or True Skin; and *d* is the Sweat Gland in a cavity of oily globules.

dry; and even with this provision of nature, the natives of the warm countries are in the habit of lubricating their skin with vegetable oils of various kinds, to protect it from the scorching influence of the solar rays.

These wonderful functions of the skin have led some medical men to the conclusion that hydropathy, or the use of the wet sheet, is the most valuable curative means we possess for almost every form and variety of disease to which the human body is subject. It is possible that not enough has been made of this most powerful of all diaphoretics—it is possible that

FIG. 3.



Vertical Section of the Skin Largely Magnified.

h Sweat Gland; *i*, a Hair enclosed in its Follicles, and showing its pair of Sebaceous Glands; *p*, a Sebaceous Gland.

FIG. 4.



Pores and Papillæ of the Skin.

On the left is a Magnified View of the Ridges of the Cuticle, as seen in the Palm of the Hand, with the Openings of the Pores in their Furrows. On the right, the Cuticle has been removed, leaving corresponding rows of Papillæ.

it may come to be more generally employed as the functions of these glands are better understood—but we can never believe that any one remedy is equal to every type and development of disease. At the same time, we can, while in health never be too lavish in our daily use of cold water.

DISEASES OF THE SKIN.

BARBER'S ITCH (*Sycosis Contagiosum*).

So called because usually thought to be received from the hair dresser. It is sometimes very obstinate to remove, lasting for months, or even years.

Cause.—It is communicated by an unclean razor or brush in shaving, or may be sometimes caused by a dull razor.

Symptoms.—It appears on the hairy part of the face—the chin, upper lip, the region of the whiskers, the eyebrows, and nape of the neck. It consists in little conical elevations, which maturate at the top, and have the shaft of a hair passing through them. These pimples are of a pale yellowish color. In a few days they burst, and, the matter running out, forms into hard, brownish crusts. These crusts fall off in one or two weeks, leaving purplish, sluggish pimples behind which disappear very slowly.

Treatment.—The most important part of the treatment is the removal of the cause. The beard must not be pulled with a dull razor, and the shaving had better be discontinued altogether, the beard being simply cropped off close with the scissors. All intemperance in eating or drinking must be avoided, as well as exposing the face to heat. A light, cool diet will do much toward a cure. Nitrate of mercury ointment, and a solution of oxalic acid are the best applications.

CHICKEN POX (*Varicella*).

Chicken pox is a very mild form of eruptive disease, which affects a person but once in a life-time, and which can generally be traced to specific contagion or infection; it is mostly confined to children.

Symptoms.—It is preceded—in most cases, but not in all—by slight fever, which lasts for one or two days before the eruption appears, which at first is in the form of conical pimples with a white head, mostly on the shoulders, breast, and neck, and more sparingly over the face and body generally. These vesicles, on the second day, appear like little globular blisters, but with little or no surrounding inflammation; they now become filled with a watery fluid, which is not converted into pus, as in small pox—to the milder kind of which

this disease bears some resemblance—and, about the fifth day, the bladders shrivel up and dry away, leaving only crusts or scales. The main distinctions between chicken pox and small pox are the absence or extreme mildness of the premonitory fever in the former disease, and the form and contents of the vesicles; those of the latter eruption being filled with dark matter, and having, invariably, a depression in the centre.

Treatment.—On the first appearance of the eruptions, the patient should be put upon spare diet; this, and a dose or two of some cooling aperient, as rhubarb or magnesia, is generally all that is necessary; but should the febrile symptoms run high, give a saline draught as the following:

Carbonate of Potash,	1 scruple.
Citric or Tartaric Acid,	15 grains.
Essence of Cinnamon,	½ a dram.
Syrup of Orange Peel,	1 dram.
Water,	10 ounces.

Shake, and drink while sparkling a wineglassful as a refrigerant. To make it effervescing, add the acid after the draught is poured out. Give plenty of cooling drink, and, if the bowels are at all obstinate, emollient injections. Care must be taken that the skin is not irritated by scratching—as it is, painful and troublesome sores may be produced—and also that the patient does not take a chill. If these precautions are observed, little or no danger is to be apprehended from chicken pox.

CHILBLAINS

Are an inflammatory affection of the skin, generally confined to the extremities, and especially the fingers and toes. Exposure to sudden alternations of heat and cold usually give rise to these troublesome visitations, which are rather characterized by itching and irritation than pain. Persons of scrofulous habit and languid circulation are most subject to them, as are children and aged persons. It is a popular fallacy, that to keep the surface of the skin in a state of unnatural warmth, by hot bottles and woollen socks by night, and fur linings and feet warmers by day, is the best way to prevent chilblains; but this only serves to keep up a constant perspiration, and so weakens the tone of the system, and increases the liability to them. A nightly foot-bath of cold, or—for aged persons—of tepid

salt and water, with plenty of friction with a rough towel, and exercise during the day, will be most likely to keep chilblains from the feet; and for the hands, a careful rubbing so as to get them carefully dry after every washing or dipping in water, and an avoidance of all unnecessary exposure to severe cold, are the best preventive measures. It is a good plan to have a pan of oatmeal always at hand, and to rub them well over with that after they have been wetted and wiped as dry as possible; this will absorb any moisture left by the towel, and have a softening and cooling effect. Bathing the feet and hands every night in warm water in which a small quantity of salt is dissolved, is one of the best preventives against chilblains.

Treatment.—Should chilblains come—as sometimes they will—in spite of all precautions, let them be gently rubbed every night and morning with some stimulant application; alcohol, spirits of turpentine, or camphorated spirits of wine, are all good for this purpose; but the application which we have found most efficacious is a lotion made of alum and sulphate of zinc—2 drams of each to half a pint of water, rubbed in warm; it may be made more stimulating by the addition of 1 ounce of camphorated spirits. When the chilblains are broken there must be a different course of treatment; the ulcers formed are often difficult to heal, especially in weakly and ill-conditioned persons; there is generally a great deal of inflammation, which must be subdued by means of bread and water poultices applied cold, and afterward by cooling ointments, such as the cerate of acetate of lead, or spermaceti ointment, with 40 drops of extract of Goulard added to the ounce; should there be a disposition to form proud flesh, the ointment of red precipitate should be used.

DISCOLORED SKIN,

As caused by moles, freckles, and sunburn, is the result of diseased action.

Freckles are brownspots on the face and hands, caused by exposure to the sun. Persons affected with these unsightly discolorations may remove them without using cosmetics (which are often dangerous by reason of their containing mineral agents), by merely stimulating the absorbent vessels of the skin to take them up and carry them away as refuse. Any smart stimulant will act in this way; but it has been found that the safest are taken from the vegetable kingdom.

One of the best and easiest is Withering's Cosmetic Lotion, which is made of a teacupful of soured milk, and a small quantity of scraped horseradish; let this stand from six to twelve hours, then use it to wash the parts affected twice or thrice a day.

Moles in the skin, or, as they are commonly called, mother-marks, are beyond the reach of surgical treatment; or, if they ever can be removed, it is only at the risk of causing a greater disfigurement; therefore they had better be left alone, the more especially as they not unfrequently answer a useful end—that of positive identification.

Disorders of the Sweat Glands.

The proper action of the skin is of the greatest importance to the health. Too much or too little perspiration may produce serious consequences; but can generally be corrected by cold or warm baths, tonics, friction, and proper clothing.

Disorders of the Oil Glands.

When the skin is not well taken care of, or when a person has very sedentary habits, the action of the oil glands becomes sluggish; the matter in the tubes becomes hard and dry and distends them, sometimes raising them above the surface, and the ends become black. Again, the oily matter is poured out too profusely, so that the skin shines with it; or, at times, there may be so little that the skin is harsh and dry.

Treatment.—For roughness and harshness of the skin, wash with soap and water every night, and rub well into the skin after the bath; and in the morning, an ointment made of olive oil, 4 ounces; white wax, 2 drams. Melt together, and then add honey, 2 drams; croton oil, 20 drops. Take a dose of sulphur and cream tartar twice a week.

Where the oil tubes have hardened, and formed a horny growth, the body should be washed with a quart of water, in which a teaspoonful of saleratus is dissolved; and twice a day use the following ointment: elder-flower ointment, 1 ounce; blue vitriol, 1 scruple. For grubs in the skin, stimulate it by washing in strong soapsuds twice a day, and rubbing briskly with a coarse towel, and by using this lotion: corrosive sublimate, 5 grains; cologne, 2 ounces; soft water, 6 ounces. Mix and apply. A spare diet will do much in some cases toward improving the skin.

ERYSIPELAS.

This disease has been popularly known as the Rose, from its red color; and as St. Anthony's Fire, partly from its burning heat, and partly because the saint whose name it bore was supposed to have the power of curing it with a touch. There are several species of this disease; but without going into the particular characteristics of each, it will be sufficient for us to state what are the general symptoms of erysipelatous inflammation, and best remedial measures. We will first say a few words as to the cause of this inflammatory affection of the skin, which often commences very suddenly, and spreads with a rapidity truly alarming—especially when, as is often the case, it first makes its appearance on the head, face, or neck, and so involves some of the most delicate and susceptible organs of the human frame.

Causes.—Changes of cold and heat, causing peculiar conditions of the atmosphere, may be named among the most common causes of this disease, which frequently appears to originate in the slightest puncture or scratch of the skin, as also from wounds or sores; it is very contagious, and its appearance in an hospital ward is greatly dreaded, as wounds and amputated parts, which up to the time of this visitation have been going on extremely well, frequently assume an inflamed—probably a gangrenous—character, which leads to a fatal termination of the case. In a house where a confinement is taking—or is likely to take—place, erysipelas should be carefully guarded against, as there is undoubtedly a close connection between that and child-bed fever, which is so frequently fatal. On systems debilitated by any disease, whether acute or chronic, this inflammatory affection appears to seize with peculiar avidity, and to spread through the tissues of the skin most rapidly; it is when extending beneath this that it constitutes what professional men call *phlegmon*, meaning literally to burn—then it is that purulent matter forms, the parts slough or mortify, and gangrene ensues. No unprofessional person should attempt to tamper with this condition of things; there must be a free use of the lancet to let out the morbid matter, and the most prompt and decisive line of action adopted; if a limb is so affected, or any part that can be excised, its removal will probably be necessary to give the patient a chance for life.

Among the predisposing causes of erysipelas may be also men-

tioned want of cleanliness, insufficiency or bad quality of the food, and irregularity of living; there may be hereditary and constitutional predisposition, and where this exists the inflammation is very easily excited, strong mental emotion, or a fit of inebriety, being sometimes sufficient to bring on an attack; it often co-exists with or immediately follows some fevers, in which it may be presumed that purulent matter enters into the venous circulation.

Symptoms.—The symptoms of an attack are usually of a febrile character, such as shivering, headache, furred tongue, accelerated pulse, and often derangement of the stomach for a day or two previously; then there is a tingling and burning sensation, with stiffness and pain, at some particular part, followed by a discoloration of the skin, and a slight elevation of the surface; the red or purplish tint is confined at first to one spot, but soon extends itself, and includes the limb or part affected; frequently this is the head, which, with the face, becomes so swollen and disfigured that the patient cannot be recognized; the eyelids puff out and entirely close the eyes, and each avenue to the senses is for a time closed. In very bad cases delirium and coma come on, and death ensues from effusion on the brain; sometimes the patient dies from suffocation, the glottis being closed, on account of the internal swelling of the throat; and all this may take place in a few hours, so rapid is the progress of the disease. In the milder forms, the patient may be tranquil; until the swelling subsides, there will be a little wandering of the mind probably, more particularly at night, and uneasy restlessness from the pain and inconvenience of the swelling. As the redness extends from the part first affected, that part becomes paler, the swelling there subsides, and sometimes blisters, like those caused by a scald, appear on the surface; if the inflammation is merely superficial, it is neither very troublesome nor dangerous; but when it becomes *phlegmonous*—that is, dips down and affects the deeply-seated tissues, there is great cause for alarm; when this is the case the color is generally very florid, the tingling and the burning sensation severe, and the surface hard and firm to the touch. The young and sanguine are most likely to be affected in this way; those of a feebler habit more commonly suffer from the *edematous* form of the disease; in this the parts affected are of a paler red, and softer and inelastic, so that they pit on pressure.

There is a variety of erysipelas called *infantile*, which affects infants at birth; it commences generally at the navel, and extends

quickly to the extremities, which are hard, firm, and much swollen, and prone to become gangrenous.

The chief characteristics of erysipelas are its sudden appearance, red color, tendency to spread, febrile symptoms, heat and tenderness of the skin, and blistered surface. We call especial attention to these, because many affections of the skin are thought to be this, although they bear but a slight resemblance to it.

Treatment.—Having a certain course to run, whose period cannot be shortened, the great object will be to conduct the patient safely through it. First administer a cooling aperient. When the aperient has operated freely, give a saline mixture like this :

Sweet Spirits of Nitre,.....2 drams.
Sulphate of Potash,.....2 drams.
Liquor of Acetate of Ammonia,.....2 ounces.
Camphor Mixture,.....6 ounces.

Take two tablespoonsful every four hours ; or, if the stomach be irritable, give an effervescing mixture as thus :

Bicarbonate of Potash or of Soda,.....2 drams.
Water,.....6 ounces.
Syrup of Orange Peel,.....2 drams.

Pour out two tablespoonsful in a wineglass, and add 15 grains of citric or tartaric acid—the former is best of the two ; but better still is a tablespoonful of fresh lemon juice ; stir and drink while effervescing. The patient during this treatment must be kept on low diet, taking nothing but mild diluent drinks ; but, should the strength rapidly decline, tonics must be administered. Quinine is the best, in 2 or 3 grain doses every four hours ; let the vehicle be wine ; if the stomach will not bear this, try an enema of thin starch, with 3 grains of the above tonic in it. To allay the burning and itching, arrowroot, flour, powdered starch, magnesia, or rye meal should be dusted over the parts affected ; should these not afford the desired relief, try bathing with tepid water, poppy fomentations, or a tea made of buckwheat meal ; a line drawn round the diseased part with caustic, so as to make a band about one inch in breadth, will frequently stop the spreading of the inflammation ; care must be taken that no skin untouched by the caustic is left in the breadth of the band, or it may render the precaution nugatory. A lotion of

lunar caustic, in the proportion of 1 scruple to 1 ounce of water, may also be applied with a camel-hair brush over the whole inflamed surface. In phlegmonous erysipelas, hot fomentations and poultices, leeches, and other dipletive measures, must at once be resorted to, and this, as before mentioned, should be under the direction of the medical adviser.

The proper treatment of infantile erysipelas is to foment the inflamed parts with a strong and hot poppy decoction, and give every hour or two a tablespoonful of decoction of bark, or of this mixture :

Sulphate of Quinine,..... 6 grains.
Diluted Sulphuric Acid,.....12 grains.
Tincture of Gentian,..... 2 drams.

A teaspoonful to be given every two hours. An enema of beef tea or mutton broth should be thrown up if the patient seems to require it.

Directly erysipelas sets in, and especially if it appears likely to assume a severe form, all the hair should be cut or shaved off the parts near where it commences. If not severe, it is best not to discolor the skin by applying caustic, but to use a lotion composed thus :

Sugar of Lead,.....1 dram.
Rain or Distilled Water.....1 pint.

Mix. Add tincture of opium, 1 dram. Wet rags to be kept applied.

Herbal or Eclectic Treatment for Erysipelas.

A poultice of cranberries has been found of great service. Boil till soft, mix with flour, and apply to the part affected. Poultices of elm bark and hop yeast have produced marked relief in allaying pain and healing the ulcerated surface. In chronic erysipelas, where it breaks out every few months, the following is very beneficial :

Blue Flag Root,.....1 ounce.
Yellow Dock Root,.....1 ounce.
Burdock Root,.....1 ounce.
Bark of Bitter Sweet Root,.....1 ounce.
Sassafras Bark,.....1 ounce.
Elder Flower,.....2 ounces.

Add 6 pints of boiling water; cover the vessel, and let it steep for twenty-four hours; press the herbs; strain and sweeten. Dose—a wineglass three times a day. Washing the parts affected two or three times a week in weak lye water is very beneficial.

INFLAMMATORY BLUSH (*Erythema*),

A morbid redness of the skin, and considered as a milder form of erysipelas—from which, however, it differs in not being contagious, and yielding more easily to medical treatment. Medical men enumerate seven different species of this disease, all differing in some peculiarity of form or color in the eruption. Thus, sometimes the surfaces are smooth and shining and marginated, or they are like small pimples or tumors, appearing generally on the face, breast, or arms; again they appear as red shining patches on the front of the legs, and sometimes on the arms, assuming a purplish tint after some days, like a bruise. This form appears to be almost peculiar to young women. Then there is the *red gum* or *tooth rash* of children, and the redness occasioned by irritating discharges, such as of the feces in diarrhea, or of tears when of an acrid character, or the chafing between the folds of the skin of children, which results from want of proper care in frequent washing and drying the parts. Sometimes after dancing or any violent exercise, drinking cold water when in a heated state, or eating too largely of fruit or other substances, red spots and patches will appear on the back, shoulders, and face, more particularly of young persons; and all these are different varieties of erythema, one of whose peculiar characteristics is that the redness disappears on pressure of the inflamed part, but shows itself again in a second or two after the finger is removed.

Treatment.—The proper treatment for children is bathing the part affected freely with hot water, and then drying thoroughly, and applying powdered starch or violet powder; keep the bowels open with a senna draught, or a dose of castor oil in the morning, following it up with small doses of quinine, according to the age of the child. Should the inflammation not yield to this treatment, after a few days, use the sugar of lead lotions recommended for erysipelas, and still proceed with the quinine, to which rapidly-spreading erythema scarcely ever fails to yield. This course of treatment must

be applied in most of the common forms of the disease to patients of all ages; but there are one or two exceptional forms to which it is not applicable, such as the kind already alluded to as chiefly attacking young women, and of these such as are of a delicate constitution. It is especially likely to come on after scarlet fever or measles. As this is attendant on a debilitated state of the system, it requires nourishing food and strengthening medicine. For its removal some preparation of iron, with infusion of quassia, and an aromatic tincture, or cinnamon water, will make a good mixture; or take the following,

Sulphate of Quinine,.....12 grains.
Diluted Sulphuric Acid,..... 1 dram.
Compound Tincture of Cardamums,..... ½ an ounce.
Infusion of Roses,.....12 ounces.

Dose—two tablespoonfuls two or three times a day; change of air is also desirable.

Another not uncommon form of the disease generally shows itself on the face, especially of sedentary females. It is often called erysipelas, but it is usually unattended with febrile symptoms, or constitutional derangement of any kind, and exhibits no tendency to spread rapidly. Local remedies are of little service in this case—indeed, they are more likely to do mischief, by inducing congestion. When the disease is acute, a brisk mercurial aperient, followed by cooling saline medicines, may be of service; when it becomes chronic, arsenic is the only remedy likely to cure it, and this will not always effect the object. It should be taken in the form of Fowler's solution. Plenty of walking exercise, with due care as to diet, and strict attention to the laws of health, are the grand specifics after all.

ITCH (*Scabies*),

A troublesome contagious eruptive disease, found generally in those of uncleanly habits.

Cause.—It is caused by a minute insect—the *acarus* or *sarcoptes scabiei*—lodging under the skin, and is readily communicated by contact. The only proof of the existence of itch is the presence of the insect, and this is readily detected by means of the microscope.

Symptoms.—The most prominent symptom of this disease is a constant and intolerable itching. It never comes on of itself, but is always the result of contact with an affected person. It first shows itself in an eruption of small bladders or vesicles filled with a clear watery fluid, occurring principally on the hand and wrist, and in those parts most exposed to friction, such as the spaces between the fingers, and the flexures of the joints, etc.; after a time it extends to the legs, arms, and trunk, but it rarely appears on the face.

Treatment.—The itch is never got rid of without medical treatment; but to that it will always yield, provided proper cleanliness be observed. Sulphur is the grand specific for it; it may be applied in the form of ointment, prepared as follows:

Flowers of Sulphur,.....2 ounces.
Carbonate of Potash,.....2 drams.
Lard,.....4 ounces.

To be rubbed well in, wherever the eruption appears, every night and morning—washing it off with soap and flannel before each fresh application. The most effectual plan is to anoint the whole body, from the nape of the neck to the soles of the feet, and out to the ends of the fingers; put on socks, drawers, flannel wrapper, and gloves, and so remain in bed for thirty-six hours, repeating the anointing operation twice during that time; then take a warm bath, and wash the whole person with soap and flannel.

In mild cases, a sulphureous vapor bath taken twice in twenty-four hours, with warm soap and water washing, will generally be sufficient.

IRRITATION, ITCHING (*Prurigo*),

A papulous affection of the skin, attended with troublesome itching. Sometimes it is attended with a sensation as of ants or other insects creeping over and stinging the skin, or of hot needles piercing it. This disease, although not dangerous, is a cause of great discomfort, and sometimes even misery; it attacks persons of all ages, and is not easily got rid of, sometimes lasting for months, and even years.

Treatment.—Wash well, every evening before going to bed, with Castile soap, and allow it to dry in. Brandy or alcohol may be used in the same manner. An ounce of lemon juice in a pint of water, or vinegar used in the same proportion, will be found useful; also, water and spirits of camphor. The diet should be carefully regulated, and all stimulants avoided.

MEASLES.

This is a contagious eruption, commonly affecting children, and the same individual but once.

Symptoms.—The first symptoms of measles are shivering, succeeded by heat, thirst, and languor; then follows running at the nose, sneezing, cough; the eyes water and become intolerant of light; the pulse quickens, and the face swells; there are successive heats and chills, and all the usual signs of catarrhal fever. Sometimes the symptoms are so mild as to be scarcely noticeable—sometimes greatly aggravated; but in any case, at the end of the third day, or a little later, an eruption of a dusky red color appears—first on the forehead and face, and then gradually over the whole body. In the early stage of this eruption there is little to characterize it, but after a few hours it assumes the peculiar appearance which once seen can never be mistaken. The little red spots become grouped, as it were, into crescent-shaped patches, which are slightly elevated above the surface, the surrounding skin retaining its natural color. On the third day of the eruption it begins to fade and disappear, being succeeded by a scurfy disorganization of the cuticle, which is accompanied by an intolerable itching. The febrile symptoms also abate, and very quickly leave the patient altogether—but often in a very weak state, and with a troublesome cough. Between exposure to the infection and the breaking out of measles, there is usually an interval of fourteen days, which is called the period of incubation; so that it is not uncommon, where there are several children in a family, for the cases to succeed each other at fortnightly intervals.

This disease is often rendered dangerous by complications with others; so that, although not in itself of a fatal character, it frequently leads to fatal results. Where there are the seeds of consumption or scrofula in the constitution, they are likely to be called into activity during the debility which follows an attack of measles; dropsy often follows it, as do affections of the air passages, chest, and bowels.

Treatment.—Generally speaking, for simple measles, little medicine is required. Give the patient plenty of diluent drinks; let him have a spare diet, and a moderately warm and well-ventilated room; keep the bowels gently open; if a roasted apple, or a little manna in the drink will not do this, give a mild saline aperient, like this:

Ipecacuanha Wine,.....1 dram.
Sweet Spirits of Nitre,.....1 dram.
Tartrate of Potash,.....4 drams.
Solution of Acetate of Ammonia,.....1 ounce.
Syrup of Poppies,.....2 drams.
Cinnamon Water,.....4 ounces.

Dose—a table or dessert spoonful three or four times a day; should this not be sufficiently powerful, substitute sulphate of magnesia for the potash, and add 4 drams of tincture of senna. Where there is much heat of the skin, sponging with tepid vinegar and water will completely relieve it, and also the itching. When the eruption has subsided, and the desquamation of the skin commenced, a tepid bath will materially assist this process, and get rid of the dead cuticle. On the third or fourth day after the disappearance of the eruption, give a small dose of powder of rhubarb, jalap, or scammony. Care should be taken to protect the patient against change of weather, and to restore the strength by a nourishing diet. Attention should be paid to the cough. Give drinks of flaxseed tea or slippery elm, made slightly acid.

Sometimes the eruption of measles disappears suddenly—then there is cause for alarm; the patient should be directly put into a warm bath, and have warm diluent drinks; if the pulse sinks rapidly, and there is great prostration of strength, administer wine whey, and the following draughts: 10 drops of aromatic spirits of ammonia, or 5 grains of the sesqui-carbonate in $\frac{1}{2}$ an ounce of camphor mixture, with a drop of laudanum, every four hours; should the prostration be very great, weak brandy and water may be given. The state of the chest, head, and bowels should be closely watched for some time after the patient is convalescent, as disorders of these organs are very likely to occur, in which case it is probable that there may be pneumonia, hydrocephalus, or diarrhea.

Malignant Measles

Is a variety which commences with the above symptoms in an aggravated form; the rash quickly assumes a livid hue, alternately reviving and disappearing, and is mixed up with dark red spots like flea-bites; in this form of the disease we have extreme debility, and all the symptoms of putrid fever, like which it should be treated. No time should be lost in procuring medical aid.

Herbal or Eclectic Treatment for Measles.

A strong tea composed of saffron and snake root always proves beneficial. Decoctions of licorice, marshmallow roots and sarsaparilla are very good, as are infusions of linseed or of the flowers of el. der; clarified whey and barley water are all excellent drinks in these cases. If the patient is costive, sweeten with a little honey.

NETTLE RASH.

This is an eruption of the skin similar to that produced by the sting of nettles. It is not dangerous or contagious.

Causes.—It is generally thrown out by some particular kind of food which disagrees with the system, such as crabs, or other shell-fish, or mackerel; certain vegetables are likely to produce it, such as mushrooms, cucumbers, bitter almonds, or strawberries. Copaiba, cubebs, valerian, or the fumes of turpentine inhaled during house-painting, are also likely to occasion nettle rash.

Symptoms.—The eruption consists of little solid eminences of irregular outline, but generally roundish or oblong, and either white or red, or both red and white—the whiteness occupying the central and most projecting part of the spot, or becoming manifest there when the integuments are put upon the stretch. It is accompanied with intense heat, and a burning or tingling in the affected spots. No part of the body is exempt from nettle rash. There are two varieties of this disorder, one of which is regarded as acute, the other as chronic, and either persistent or intermittent. The acute form is usually preceded or attended with feverishness, and a feeling of general uneasiness, headache, nausea, and vomiting. In general it appears in the morning, vanishes in the course of a few hours, and perhaps reappears again twice or thrice during the day. It usually disappears entirely in six or eight days. The chronic form of this complaint is intractable and difficult to remove, coming and going for a lengthened period, but with little or no feverishness.

Treatment.—An emetic should be first administered, if the eruption is caused by anything recently taken into the stomach; it should be followed by a saline aperient—senna mixture, with salts, is perhaps best, and this repeated until the bowels are freely moved; if the febrile symptoms do not subside, a mixture composed of sweet

spirits of nitre, 2 drams; liquor of acetate of ammonia, 1 ounce; and camphor mixture, 5 ounces, should be given, two tablespoonsful every four hours. In the chronic form, a simple diet, active exercise, an avoidance of any articles of diet likely to excite the eruption; keeping the bowels regular by gentle aperients, combined with anti-acids; a five-grain rhubarb pill an hour before dinner, or a small piece of the root chewed, are good remedial means; the tepid bath should be occasionally used, or sponging, to keep the skin in a healthy state; to allay the irritations, dust starch-powder over the irruptions, or use a lotion made of rose or elder-flower water in half a pint of which has been dissolved 1 dram of carbonate of ammonia, and ½ a dram of sugar of lead.

PRICKLY HEAT, or LICHEN,

Is a disease caused by intense and long-continued heat; but it may be excited by the same causes which produce the nettle rash, when the system is prepared for it. It is one of the most annoying plagues of a tropical climate.

Symptoms.—The general character of the disease is that of "a diffuse eruption, with red pimples, and a troublesome sense of tingling or pricking." There is more or less general irritation, and sometimes a little fever at the commencement. In its milder form, it first appears with distinct red papillæ about the cheeks and chin, or on the arms, with little inflammation around their base. In the course of three or four days, the eruption spreads over the neck, body, and lower extremities, producing an unpleasant sensation of itching, often aggravated at meals and during the night. In a week or ten days the color of the eruption fades, and the cuticle separates in scurf. This is the common form; but we find that from external heat, and sometimes from internal disorder, a vivid rash is often thrown out, consisting principally of deep red pimples, occasionally degenerating into wheals like those of the nettle rash, which remain for a considerable time, unless the atmospheric or other causes are removed.

Treatment.—For the relief of the itching and burning sensation attendant on prickly heat, which in tropical countries are often absolutely unbearable, the best remedy is cold water—using caution when the patient is perspiring. Live sparingly, and take a few doses of a mild purgative, as the following:

Powdered Aloes,.....2 drams.
Powdered Rhubarb,.....1 dram.
Powdered Jalap,.....2 drams.
Powdered Cream of Tartar,.....4 drams.
Magnesia,.....1 dram.
Best Honey,.....1 ounce.

Mix well, and divide into 120 pills; take 2, 3, or 4 on going to bed.

RASHES.

Patches of superficial redness of the skin; they may occur on any part of the body, and are generally accompanied by increased heat and irritation—sometimes by swelling, inflammation, and considerable pain; they are not contagious.

When red blotches occur in the face they are generally connected with some constitutional derangement—often with dyspepsia—to the cure of which the general treatment must be directed; the face should be washed in warm water, and the blotches dapped with camphorated spirit.

Rose Rash

Is common with children during dentition, and is, therefore, called tooth rash. It arises from intestinal irritation, and most usually shows itself about the face, although it may appear on any part of the body. With adults it usually occurs in hot weather; fatigue, drinking largely of cold water, or eating indigestible food, will bring it forth. It sometimes occurs during the eruptive form of small pox, and sometimes after vaccination, in a congeries of small dots or patches. Mild aperients, such as rhubarb and magnesia, cooling drinks, tepid baths, with frugal diet and rest, are the best remedies. There is usually considerable itching with these rashes, which may be allayed by the application of Goulard water, or some other cooling lotion.

RINGWORM

Is an eruptive disease of the skin—more particularly of the head—and of which there are several kinds.

Causes.—Ringworm has its seat in the roots of the hair, and is believed to be attended by the growth of parasitic fungi; its predisposing causes are any derangement of the general health from ill

or under feeding, breathing impure air, drinking bad water, uncleanly habits, scrofula. Its immediate or exciting cause is generally contact with those affected with it, or using combs or hair brushes which they have used.

Mr. Erasmus Wilson remarks "that improper food is a frequent predisposing cause, and that he has observed it in children fed too exclusively on vegetable diet." It is said to occur spontaneously in children ill-fed and uncleanly, and is readily propagated by contagion. It has recently been discovered that this disease is owing to the presence of a cryptogamic parasite, called the *trichophyton.*

Symptoms.—The most common kind commences with clusters of small light-yellow pustules, which soon break and form into thin scabs, which, if neglected, become thick and hard by accumulation. When removed, they appear again in a few days; and by these repetitions the incrustations become thicker, and the area of the patches extends, so as, if unchecked, to affect the whole head, and extend also to the forehead and neck. The patches are of an irregular circular form. This disease occurs generally in children of three or four years and upward, and often continues for several years.

Treatment.—The treatment consists in applying to the parts some preparation which will destroy the fungus. The first thing to be done is to remove the hair, and this should be done with a pair of pincers, or some such depilatory as 1 part each of lime and carbonate of soda, and 30 parts of lard. Afterward the parts should be washed with a solution of bichloride of mercury (1 part to 250 parts of water), or with a solution of sulphurous acid (1 part to 8 of water). The general health should be at the same time attended to, and nutritious diet, tonics, cod-liver oil, and regular exercise used when necessary.

The vesicular form of ringworm is the simplest and most amenable to treatment; sometimes it disappears after careful washing and poulticing, with, perhaps, a few applications of any astringent lotion; but the pustular form is far more troublesome and intractable, spreading often very rapidly, and running into ulcerous sores, and sometimes reappearing when it is thought that a cure has been effected. Nothing but the greatest care and attention will then eradicate it. Any child afflicted with this disease should be separated from other children, on account of its contagious nature; wearing each others caps and bonnets will be likely to spread it through a whole school.

ERUPTIVE DISEASES OF THE SCALP

Are commonly very obstinate and difficult to cure; keeping the hair cut short off, great cleanliness, and regular application of the prescribed remedies, are essential to success in the treatment of such; the head should be washed at least once a day with a strong lather of yellow or Castile soap. The red precipitate ointment is often of essential service in these scalp eruptions, but its application is useless over scabs; they should be removed previously by means of poultices. Alkaline lotions have been used with good effect—about 2 drams of subcarbonate of soda, dissolved in 1½ pints of water, is perhaps the best form; a piece of lint saturated with it should be laid over the head, and covered with oiled silk or thin gutta percha.

It often happens that an eruption of this kind is thrown out to relieve the system of morbific matter, and if in this case it is stopped too suddenly, convulsions and other ill consequences may follow; the patient should be put under a course of alterative medicine, and these, with strict attention to cleanliness, etc., will effect a cure as quickly as is safe and desirable.

When there is a full habit, with a tendency to eruptions of the scalp, the diet should be somewhat lowered. Mild and farinaceous food should be in a great measure substituted for flesh. But if the habit be weakly, the diet must be rendered more nourishing and stimulating; in all cases of the kind salted provisions should be avoided.

SCARLET FEVER, or SCARLATINA,

Is a contagious febrile disease, almost always attended during a part of its course by a rash and by sore throat. Sometimes only one of these features is well marked, sometimes both. Though persons of all ages are susceptible of it, it is eminently a disease of children. Like small pox or measles, it rarely attacks a person more than once. Physicians distinguish three different varieties of scarlatina—namely, *scarlatina simplex*, in which there is a florid rash and little or no affection of the throat; *scarlatina anginosa*, in which both the skin and the throat are decidedly implicated; and *scarlatina maligna*, in which the stress of the disease falls upon the throat.

Symptoms.—So plainly are the symptoms marked that it is scarcely possible to mistake this eruptive fever for any other; almost invariably we have first sore throat, with shivering, headache, and loss of appetite; probably there may be sickness and vomiting, with heat of skin, quick pulse, and great thirst. In about forty-eight hours from the commencement of the attack, we have an eruption of red spots on the arms and chest; these gradually become more thickly planted and widely spread, until they pervade the whole of the body, making the skin appear of one uniform scarlet tint, that is over the body generally; in the extremities it is more in patches, the skin being perceptibly rough to the touch. On the second day, generally, the tongue presents the appearance of being covered with a white film, through which the papulæ project as bright red spots, as we see the seeds on a white strawberry; then the white creamy-looking film comes away gradually, and leaves the tongue preternaturally clean and red. On the fourth or fifth day the eruption begins to fade, and by the seventh or eighth has entirely disappeared, and with it the febrile symptoms. Then commences the peeling off of the cuticle or scarf skin, which comes away in scales from the face and body, and in large flakes from the extremities. It is during this process that the greatest danger of contagion is to be apprehended, and, until it is completed, the patient should be kept apart from the rest of the family: it may be hastened by tepid bathing and rubbing. Sometimes, with scarlet fever, there is little real illness; the patient feels pretty well, and, in a few days, would like to leave the sick chamber; but it is always necessary to be cautious in gratifying such a wish, both for the sake of the invalid and of others; after an attack of this fever, as after measles, the system is peculiarly susceptible of morbific influences, and a chill taken at such a time may cause the most alarming results.

Sometimes we have a great aggravation of the symptoms above described; the throat gives the first warning of the attack; there is stiff neck, swelling of the glands, and the lining of the mouth and fauces becomes at once of an intense crimson color; there are ash-colored spots about the tonsils; the general eruption is of a deeper color, and spreads more rapidly, than in the simple kind.

Scarlatina Anginosa.

Then again we have the malignant form, with the rash in irregular patches of a dusky hue, which sometimes recedes and appears

again. There is intense inflammation of the throat at the very outset, with general enlargement of the salivary glands; the neck sometimes swells to a great size; there is a sloughy ulceration of the throat, from which, and the nostrils—through which it is difficult to breathe—there comes an acrid discharge, causing excoriation of the nose and lips, and sometimes extending to the larynx and trachea, as well as to the intestinal canal, causing croup, vomiting, and purging. The poisonous secretion enters into the circulation and vitiates the blood; sometimes the sense of hearing, as well as of smelling, is entirely destroyed by the acrid matter coming in contact with and inflaming the mucous membrane. With this form of the disease it is extremely difficult to deal, and the patient often sinks beneath it in spite of the best medical advice and assistance. Scarlet fever may be distinguished from measles by the following characteristics:

In scarlet fever the eruption appears on the second day, accompanied with sore throat, but no running of the nose. In measles the eruption comes out on the third or fourth day, with running from the nose, and other catarrhal symptoms. The eruptions of measles are like flea-bites, slightly elevated from the surface, in patches the shape of a half moon; whereas the rash of scarlet fever is smooth to the touch, spreads over the whole body, and is of a brighter red color than measles.

Treatment.—At first mild aperients only should be given, with diluted drinks, as flaxseed tea, and a spare diet; the patient should have plenty of fresh air; the head should be kept cool, the hair being cut close off or shaved. The following is a good febrifuge mixture:

Carbonate of Ammonia,.....1 dram.
Solution of Acetate of Ammonia,.....2 ounces.
Water or Camphor Mixture,.....6 ounces.

A tablespoonful to be taken every four hours—that is for an adult; a dessert-spoonful will be sufficient for a child. The whole body should be sponged with cool water as often as it becomes hot and dry. If the throat swells much externally, and there are headaches, apply a blister or hot bran poultice, and soak the feet and hands in hot water, with a little mustard or Cayenne pepper stirred in. To gargle the throat, dissolve 1 dram of common salt in ½ a pint of water; with children who cannot gargle, this may be injected

against the fauces or up the nostrils, by means of a syringe or elastic gum bottle. When the inflammatory action has ceased and the skin is peeling off, it is necessary to take good stimulant and nutritious food, with tonics such as iron and quinine, unless they cause bad head symptoms, in which case these must be discontinued, and the diet chiefly depended on. When the system seems to be overwhelmed with the strength of the poison, a liberal administration of wine and bark will be required to sustain the flagging powers until the deadly agency has in some measure passed away. As gargles for the throat, a weak solution of chloride of soda or of nitrate of silver is very useful. A solution of chloride of potass in water (a dram to a pint) is recommended as a drink in this disease. The bowels also require to be carefully watched. It is of the utmost importance that the throat should be carefully treated. If neglected, the inflammation is liable to enter into the middle ear and cause life-long deafness, and perhaps ulceration of the ear, with discharges.

With regard to the more malignant form, but little is to be done; the depressing effect of the contagious poison upon the whole body, and upon the nervous system especially, is so great as to defy all active treatment.

To assist the action of the skin, use the following:

Pulverized Gum Arabic,	1 scruple.
Sweet Spirits of Nitre,	½ an ounce.
Tincture of Veratrum Viride,	20 drops.
Water, Soft,	2 ounces.

Mix; give half a teaspoonful every half hour.

As a preventive of scarlet fever, belladonna has been much recommended; its effect is to deaden the nervous energy, and render the system less susceptible of the contagion. If a solution of the extract be made in the proportion of 5 grains in 10 ounces of water, an adult may take 2 drams, and a child from 20 to 30 drops twice a day, for three weeks during the time when the fever is raging in a neighborhood. Recently carbonate of ammonia has been much recommended in the treatment of this disease. For adults five-grain doses; for children half the quantity three times a day. Very frequently, about ten or fourteen days after the subsidence of this fever, alarming dropsical affections result. These may be generally obviated by using daily the warm bath when the skin begins to peel off. When dropsy has set in, give a warm bath three times a

week, and the compound tincture of Virginia snake root, in doses of a teaspoonful every two hours, in catnip tea, until free perspiration is induced.

Herbal or Eclectic Treatment.

In its milder attacks but little treatment is required. Give warm drinks of catnip, sage, saffron, or snake-root tea. Where the stomach is irritable and vomiting frequent, spearmint tea will be very beneficial, or a mustard plaster laid over the stomach will stop the vomiting. When an emetic is needed, give a teaspoonful of lobelia powder, the same quantity of powder of skunk cabbage, and a little Cayenne pepper, with a teaspoonful of sugar, in strong thoroughwort tea; give every half hour till free vomiting is produced. If the throat is sore and swollen, bathe it with a liniment made of 1 part of spirits of turpentine and 2 parts of sweet oil, applied while warm. A good gargle is take ½ a pint each of vinegar and water, hot, add 1 teaspoonful of blood root, and let it stand seven or eight hours before using.

It is said that in the West Indies, where this disease frequently assumes the malignant form, cures are effected by the following simple preparation:

Take 2 tablespoonsful of Cayenne pepper, and a teaspoonful of salt; put them into a ½ pint of boiling water; let the mixture stand about fifteen minutes; then add a ½ pint of vinegar; let it stand a half hour, when strain through a fine cloth, and give two tablespoonsful every half hour. If putrid symptoms appear, give common yeast, a wineglass every two or three hours.

A valuable preparation for inflamed or swollen face is raw cranberries pounded fine and applied.

On recovery the following good tonic may be given: Take of gentian root, colombo root, sweet flag root, golden seal root, Cayenne pepper, of each, in coarse powder, a heaped teaspoon; add 1 pint of sherry wine; let it stand a few days. Dose—a teaspoonful to a wineglassful three times a day.

SMALL POX (*Variola*).

This, like scarlet fever and measles, belongs to the class of eruptive fevers; it attacks persons of all ages, but the young are most liable to it. At no particular season of the year is it more preva-

lent than at any other, nor does climate appear to be influential in averting or modifying its visitations.

Symptoms.—When it occurs naturally, the premonitory symptoms are those of other fevers of its class; there are usually cold chills, pains in the back and loins, loss of appetite, prostration of strength, nausea, and sometimes vomiting; with young children, there are sometimes convulsions. About forty-eight hours after these symptoms set in, an eruption of hard red pimples begins to overspread the face and neck, gradually extending downward over the trunk and extremities. Each pimple is surrounded by the peculiar dull red margin termed areola, and has a central depression on the top, containing lymph; at this period the eruption is decidedly vesicular, but it becomes afterward pustular; this change takes place on about the fifth day of its appearance, when the central depression disappears, suppuration takes place, and the vessels are filled with matter, which shortly after oozes out and dries into a scab. In about ten days this falls off, and leaves a pale purple stain like a blotch, which gradually fades, unless the disease has penetrated so deeply as to destroy the true skin, in which case a pit, or, as it is usually called, a "pock-mark," remains for life.

The primary fever of this disease lessens as soon as the eruption appears; but after this has left the face, and traveled downward, attacking successively the lower parts of the body, a secondary fever sets in, which is more severe than the first, and not unfrequently assumes a typhoid character.

Small pox may be either distinct or confluent. In the former case, the pustules are perfectly distinct from each other; in the latter, they run into each other; this latter is the most dangerous form of the disease, the fever being more intense and rapid, and having no intermission; it goes on increasing from the first, and frequently by its violence, in nine or ten days, so exhausts the system that coma, delirium, and death ensue, preceded by convulsions, hemorrhages, bloody stools, dysentery, and all the train of symptoms which indicate that a virulent and fatal poison has entered into the circulation.

Treatment.—As soon as the premonitory fever comes on, an emetic should be administered, and followed by a purgative of a tolerably active nature; then keep the patient on spare diet (certainly no meat), and give plenty of warm diluent drinks; keep the bowels moderately open by means of saline aperients; let the patient have

plenty of fresh air, and sponge the skin with cool or tepid water, as may be most agreeable, to diminish the heat of the body. Sometimes there is not energy in the system to develop the pustules with sufficient rapidity; in this case nourishment and stimulants should be given in the form of broths, wine whey, etc.; warm or mustard foot-baths should also be resorted to; and, to allay irritability, a ten-grain Dover's powder may be administered at bed-time, or a $\frac{1}{4}$ of a grain of morphine, in camphor mixture. A good nourishing diet will be required in the secondary stage of the fever; and, if it assumes a typhoid character, the treatment should be the same as that of typhus fever. Frequently the face is much swelled, and the eyelids closed; in this case rub the latter with olive oil, and bathe the whole with poppy fomentation. If the throat is sore, use a gargle of honey and vinegar, 1 tablespoonful of the former, 2 of the latter, added to a $\frac{1}{2}$ pint of water or sage tea. If much affected, a blister should be applied to the neck. If there is much headache, cut the hair close, apply mustard poultices to the feet, and a spirit lotion to the head; to reduce itching, apply to the eruptions a liniment composed of lime water and linseed oil, equal quantities, or smear the pustules with cold cream; to check diarrhea, give chalk mixture, with 5 drops of laudanum in each dose; if perspirations are too copious when the eruptive fever has subsided, take acidulated drinks. Smearing the eruption with mercurial ointment, or puncturing each pustule, and absorbing the pus with wool or cotton, has been recommended to prevent the deep pitting which is so great a disfigurement to the face. Painting the face once or twice a day with glycerine is said to effectually prevent pitting.

There is no disease more certainly and decidedly contagious than this; after imbibing the poison, a period of twelve days generally elapses before the commencement of the fever, and during this time no inconvenience may be experienced. Beside breathing the effluvia arising from a person attacked, small pox may be communicated by inoculation with the matter of its pustules, and, the resulting disease being of a milder character, this method was formerly much practised to guard persons from a spontaneous attack; since, however, the introduction of vaccination by Dr. Jenner this practice has been abandoned. This disease is frequently epidemic, and the statistics of its different visitations show that the mortality of those attacked who have not been vaccinated is one in four; whilst of those who have, it is not one in four hundred and fifty; a strong argument this for vaccination where the disease prevails.

The following instructions for controlling small-pox contagion, enforced at Lowell, proved effective in arresting the spread of the disease:

ISOLATION.

1. Persons attacked with small pox or varioloid, and all infected clothing of the same, must be immediately separated from all other persons liable to contract or communicate the disease.

2. Nurses, and the infected clothing of such persons, must be treated as in quarantine.

3. None but nurses and the attending physicians will be allowed access to persons sick with small pox or varioloid.

4. Patients must not leave the premises until they, together with the bedding and clothing, have been disinfected, and permission given by some physician of the Board of Health.

DISINFECTION.

1. All bedding and personal clothing infected with the small-pox contagion, which can without injury, must be washed in boiling water.

2. Infected feather beds, pillows, and hair mattresses, must have contents taken out and thoroughly fumigated, and ticks washed in boiling water.

3. Infected straw and excelsior mattresses must have contents removed and buried, and ticks washed in boiling water.

4. Infected blankets, sheets, and pillow cases, and all articles in contact with or used by the patient, must be washed in boiling water.

5. Personal clothing and bedding—particularly comforters—which cannot be wet without injury, must be disinfected by baking or fumigation.

6. Instead of using boiling water as the disinfectant, the following chemical process with cold water may sometimes be conveniently substituted: Dissolve into a wash-tub containing 8 gallons of cold water 1 pound of the hyposulphite of soda. Immerse all the articles of clothing and bedding used by or around the patient, and, when thoroughly saturated, add ½ a pint of sulphuric acid, first diluting it with 1 gallon of water. Stir the whole, and allow the clothes to soak an hour; then wring them out, rinse three times in cold water, and hang them out to dry.

7. Disinfection of houses, clothing, and bedding by fumigation may be effected by filling the closed room with the fumes of sulphurous acid or of chlorine gas. The first can be accomplished by pouring ½ a pound of sulphur in an iron dish, pouring on a little alcohol, and igniting it, thereby causing the sulphur to burn and give off sulphurous acid fumes. The second can be accomplished by moistening with water 4 pounds of chloride of lime, contained in an earthen or wooden vessel, and adding thereto a pint of muriatic acid, to liberate the chlorine gas. Clothing and bedding, to be well fumigated, must be separated as much as possible, and hung upon the walls and furniture of the room, so that everything will be thoroughly permeated. The rooms should be kept closed an hour or two after being charged with gas by either method, and then thoroughly ventilated. No attempt should be made to fumigate the sick room in this manner while it is occupied by the patient.

8. On the recovery, removal, or death of every case of small pox or varioloid, the clothing, bedding, and premises will be disinfected, in accordance with the above rules, under the direction of one or more physicians employed for the purpose by the Board of Health.

9. The physicians employed in disinfecting may cause removal, destruction, or burial of such infected bedding and clothing as may, in their judgment, seem to require it, of which they shall keep a correct record, with date, kind of article, whether new or old, estimated value, name, and residence of the owner. No person shall burn any contagioned articles unless authorized by the Board of Health.

10. The sick room should be kept well ventilated, with such precautions as not to expose the patient to direct currents of air, and should be occasionally fumigated, slightly, by throwing upon a heated surface a few teaspoonsful of a solution of carbolic acid, made by dissolving 1 ounce of crystalized carbonic acid in a quart of rain water. Pieces of cloth may be soaked in this solution and suspended in the room, also in the hall-ways adjoining. All vessels for receiving discharges of any kind from patients must be emptied immediately after use and cleansed with boiling water. When convalescence has taken place, the patient must be thoroughly washed in warm water and soap, and put on fresh, clean clothes throughout.

11. Privies, water closets, garbage tubs, water pipes, and all kinds of drains and foul places in houses, stables, and yards, may be dis-

infected with a solution made as follows: Dissolve 8 pounds of copperas (sulphate of iron) in 5 gallons of water; add 1 quart of the solution of carbolic acid, and mix well.

12. It should be remembered that there are no substitutes for pure air and water. Let fresh air and sunlight purify every place they can reach; open and dry all cellars; keep the grounds about dwellings dry and clean, and let personal and domestic cleanliness be everywhere observed.

Vaccination and re-vaccination are of paramount importance, affording the best attainable protection against small pox, and mitigating its severity when not preventing an attack.

PREVENTION OF SMALL POX.

At a time when small pox is prevailing, it is important to understand the most reliable preventive as well as curative measures in its management. Small pox is propagated by specific contagion or miasm, and by direct inoculation of the virus, or lymph, which accumulates in the pustules. The miasma of small pox is multiplied by heat, moisture, and foul air. Thus, a small quantity of the malaria, in a hot, damp, and filthy house, will increase so rapidly that the entire building will soon become a magazine of poison. The poison can not develop itself in a pure and dry atmosphere, hence the first and most important preventive means against this loathsome disease is to remove all filth and moisture from dwellings. The second preventive measure consists in keeping the functions of the body active. This can be accomplished by avoiding excesses, by baths, a regular diet, and strict attention to cleanliness in every respect. Third, by vaccination, when properly performed. The best lymph to be used for vaccinating is that which is prepared in Germany and imported in quills. It should be introduced by slightly scarifying the arm or calf of the leg (not sufficiently to draw blood), and, applying the lymph, allowing it to remain until it is entirely dry. If the first application does not take effect, it should be repeated every two or three days. In order to have vaccination certainly protective against small pox, it must produce the following constitutional symptoms: Light pain in the head, aching of the muscles, chilly sensations, and some fever, together with the development of a well-defined pustule, which will appear first as a small blister, then fill with grayish lymph, will dry, and become of

a mahogany color, and upon scaling off will leave a pit. Inflammation may appear around the pustule, but as that occurs frequently as the result of the scarifying, it is not a positive indication that the vaccine disease has been perfectly developed. If the vaccination has been perfect, the system is as much protected as it can be, and observations prove that it is a preventive of small pox in ninety-three cases out of one hundred, and in the remainder it modifies it. The treatment of small pox should always be entrusted to a skillful physician, and. under judicious management, it is by no means a fatal malady.

TETTER.

After a slight feverish attack, lasting two or three days, clusters of small, transparent pimples, filled sometimes with a colorless, sometimes with a brownish lymph, appear on the cheeks or forehead, or on the extremities, and at times on the body. The pimples are about the size of a pea, and break after a few days, when a brown or yellow crust is formed over them, which falls off about the tenth day, leaving the skin red and irritable. The eruption is attended with heat, itching, tingling, fever, and restlessness, especially at night. Ringworm is a curious form of tetter, in which the inflamed patches assume the form of a ring.

Treatment.—The treatment should consist of light diet and gentle laxatives. If the patient be advanced in life, and feeble, a tonic will be desirable. For a wash, white vitriol, 1 dram ; rose-water, 3 ounces, mixed ; or an ointment made of elder-flower ointment, 1 ounce ; oxide of zinc, 1 dram.

Humid Tetter

Is an eruption of minute, round pimples, about the size of a pin's head, filled with colorless fluid, and terminating in scurf. It is preceded by languor, faintness, perspiration, and a pricking of the skin. Another species of this disease is called sun-heat, which is an eruption of a white or brownish color, which generally terminates in yellow scabs. It occurs only in summer, and affects those parts which are uncovered.

In still another species, the eruption is attended with pain, heat, itching, intense smarting, and a swelling of the affected part. When the blisters break, the water runs out, irritates and inflames the skin,

Treatment.—Low diet, cooling drinks, gentle pugatives, and warm baths. In old chronic cases, apply externally either lime water, or corrosive sublimate in a wash proportioned of 5 grains to 1 pint of soft water. In the last two forms of the affection apply nitrate of silver, in solution, to the parts.

Crusted Tetter.

This eruption consists at first of slightly elevated pustules or pimples, closely congregated, with an inflamed border. These break, and the surface becomes red, excoriated, shining, and full of pores, through which a thin, unhealthy fluid is poured out, which gradually hardens into dark, yellowish-green scabs. When this tetter invades the head or scalp, it causes the hair to fall off, and is termed a *scall.*

Treatment.—Vapor bath and water dressing. The crusts should be removed by a weak lye, made from hard-wood ashes or potash; then an ointment should be applied, made of mild nitrate of mercury ointment, 3 drams; sugar of lead, 16 grains; rose-water ointment 1 ounce.

Papulous Scall

Is a mattery pimple developed in a highly inflamed skin. The blisters are about the size of a split pea, and are surrounded by a red ring. They are generally separate, not clustered like crusted tetter. They are scattered over various parts of the body, and are followed by a hard, black crust, or by a sore. The disease is either acute or chronic. The chronic form is found in weakly children, or persons reduced by sickness or low living.

Treatment.—For the acute form, low diet, gentle laxatives, cold sponge-bath on the sound parts, and an ointment of oxide of zinc, 1 dram; spermaceti ointment, 1 ounce, mixed. For the chronic form, tonics should be given internally, and the above ointment used.

WARTS and CORNS.

The wart is an excrescence from the cutis or outer skin—a horny tumor formed upon it; it is not generally so painful as it is disa-

greeable and unsightly, coming nearly always upon the hands, or some other conspicuous place. The best treatment is to touch it with some caustic, or escharotic. Nitrate of silver is the most effectual, but this turns the skin black, which is in many cases very objectionable. Caustic potash will answer the purpose, so will acetic acid, if of extra strength, and nitric acid. The application should be made daily, and the decayed part pared off, or cut with scissors. If it can be conveniently done, a ligature of silk tied tightly round the base of the wart will cause it to decay, and eventually drop off. Another simple method is to bind a leaf of a house leek upon it, from which you have removed the skin, for a few nights in succession, and the wart will disappear.

Corns.

There are few persons who have not suffered from these troublesome excrescences, which arise from a thickened state of the outer, or scarf skin, caused generally by the pressure or friction of tight or ill-fitting shoes; the sensible, that is the true skin, feeling the pressure, endeavors to protect itself by throwing up a sort of defence, which assumes a conical form, having the apex within pressing upon the tender skin, and often causing intolerable pain, and sometimes inflammation to such an extent as to form an abscess at the point.

Treatment.—In the treatment of corns, the first object should be to remove the exciting cause; comfortable, well-fitting boots or shoes should be substituted for those of an opposite character, and the corn, after the feet have been soaked in warm water to soften it, should be pared carefully away, particular care being taken not to wound the more sensitive part. When the outer surface is removed, there will be perceived in the centre a small white spot, which should be carefully dug out with a pointed knife or pair of scissors. When this, too, is removed, cover the seat of the corn with a small circular piece of thick, soft leather spread with soap or diachylon plaster, and leaving a small hole in the centre, corresponding with that from whence the root of the corn has been taken. Should any of this latter remain so as to cause irritation, apply to it, every second or third day, a piece of lunar caustic, scraped to a point, and slightly moistened. Some persons apply strong acetic or other

acid; but this is not so effectual, and more likely to cause inflammation, which will be best allayed by a warm poultice of bread crumbs, moistened with Goulard water, the foot being held up as much as possible, and the system kept in a cool state with saline aperients, etc.

Soft Corns

which form chiefly between the toes, are often very painful and troublesome; let them be cut away as close as possible with a pair of scissors, and then dressed with rags wet with Goulard water, or a solution of sugar of lead; ivy leaves form, for such, a cool, pleasant protection from friction; they should be put on fresh every day.

Beneath the corner of the nail of the great toe a peculiar kind of corn sometimes occurs; it should be cut, or scraped out with the finger-nail, and caustic applied as above directed. Mere callosities of the skin on the hands and fingers are not corns, although often called so; they have no roots and are not painful, therefore it is best not to interfere with them; for if removed, others would come in their places, while the friction is kept up in which they originate.

Under the several heads referred to, we have given such directions as are considered likely to be of service, in so far as domestic treatment may go. Let us now endeavor to impress upon our readers that, in all these diseases, cleanliness is the great curative desideratum; without it all remedies will be of little avail. Very many skin diseases are owing entirely to the want of proper care and attention to sanitary rules, and few of them can be completely cured without a regular and systematic use of soap and water.

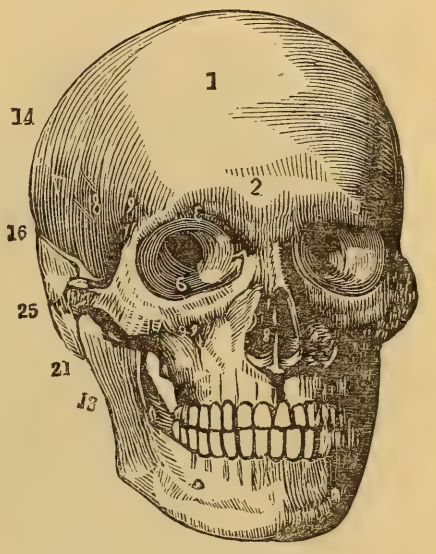
THE HEAD, BRAIN, AND NERVES.

THEIR ANATOMY, STRUCTURE, AND FUNCTIONS.

The head is the upper or crowning part of the human frame, which is divided by anatomists into three principal divisions—the head, the trunk, and the extremities. It is with the first only that we have to do at present, with regard to the anatomical structure of which we may say, that it consists of the skull, or cranium, and the face—the former being, as it were, a case for the brain. It is composed of eight bones, connected together by sutures, or joinings, some having toothed or serrated margins, which fit into each other —some overlapping and others interlacing—a structure marvelous at once for its strength and lightness. Between the interior and exterior wall of the frontal or forehead bone are what are called the frontal sinuses, two hollow chambers, which cause those bulgings above the upper edges of the orbits; and in the hollows beneath them lie, sheltered and protected, the eyes. Behind each ear there is also a bony prominence to which the powerful muscles are affixed, which are distinctly seen in the neck, whose lower ends are fixed to the top of the breast bones. These are intended to guard the entrance to the internal ear, which is placed wholly within the hollow of the temporal bones. At the base of the skull is a round hole of considerable size, through which the spinal cord, or marrow, passes from the vertebræ to the brain. On either side of this hole are two smooth prominences, called condyles, which rest upon the tops of the uppermost vertebræ, and allow of a nodding motion to the head. Owing to the frequent modification by confluence, or joining together, of the human bones, it is difficult at all times to specify the exact number in any given part, and this is more especially the case in that part which we are now considering. Collections of bones so

united have received a kind of generic name—thus we say the *occipital*, the *temporal* bones, etc., and the constituents of these, which have received no specific name, are defined as *processes*. Thus we have the condyloid process of the occipital, and the styloid process of the temporal bone; we also sometimes speak of these aggregates of united bones as *portions*—for example, the petrous portion of the temporal bones, etc. At present, we will devote our attention more particularly to the general conformation of the head, and its frontal development or face.

FIG. 5.



The Anterior or Front View of the Head, as shown in the Human Skeleton.

1, the frontal portion of the frontal bone; 2, the position of the nasal prominence, the hollow within which is shown, ihe cartilage which supports and forms the nose being mostly removed; 3, over the orbit refers to the supra-orbital ridge; 4, the optic foramen; 5 and 6, the sphenoidal and the sphenomaxillary fissures; 7, lachrymal fossa in the lachrymal bone, where the nasal duct commences; 4, 5, 6, and 7 refer to parts within the orbit; 8, the opening of the anterior nares, divided into two parts by the vomer, on which tha cypher is placed; 9, the infra-orbital foramen; 10, malar bone: 11, symphosis of lower jaw; 12, mental foramen; 13, ramus of lower jaw; 14, parietal bone; 15, coronal suture; 16, temporal bone; 17, squamous suture; 18, upper part of the great ala of the sphenoid bone; 19, commencement of the temporal ridge; 20, zygoma of the temporal bone, assisting to form the zygomatic arch; 21, mastoid process.

Of the head, then, that lofty dome in which thought sits enthroned—the capital of the beautifully and marvelously constructed pillar which God has set up in the temple of His divinity, and illumined with the light of spiritual life and intelligence! Of the head, the seat of sensation and the home of intellect, we have to speak, but not as much in relation to its psychology as its physiology. We have seen that the upper portion of it is the cranium or brain-case, into whose delicate membranes and tissues, and reticulated net-work of nerves, and veins, and arteries, we have already penetrated. Let us, therefore, now confine our attention to the outside of the bony structure here represented.

In this case, as in many others throughout the work, we have given the scientific names of the various parts, because we are desirous that our readers should have an opportunity of becoming acquainted with these anatomical terms if they wished to do so.

Here, then, we have the skull—that chamber of the soul, as it has been well termed, and of which more will be said under the proper head—presented to us as it was to *Hamlet*, when he exclaimed, "Alas, poor Yorick!" and moralized upon the fine intelligence that once dwelt in those now tenantless cavities. Who can look upon the broad expanse of the forehead without thinking of the busy brain which once thrilled, and throbbed, and vibrated to every sensation of the body, or emotion of the mind?—at those hollow orbits from which once flashed forth the light of intellect, the fire of anger, or beamed the gentle look of love and affection, and at which entered the luminous rays, bearing visions of the outer world to the inquiring soul within?—at the broken remains of that once finely chiseled and shapely organ which once adorned the face, and stood like a vestibule to the great hall of the temple, through which perfumes, like messengers, were ever passing, as ministers of delight or the warners of danger; at those rows of gleaming teeth, without thinking of the friendly smile, and the ruby lips which once half hid and half displayed them, and contrasted so beautifully with their pearly whiteness? Where, now, is that organ of speech which once discoursed so eloquently, counseled so wisely, or admonished so kindly and affectionately? But we must not pause over such reflections as these. Let us clothe the naked skull, fill up the vacant spaces, and

FIG. 6.



The Lower Surface or Base of the Brain.

a is the cerebrum or brain proper, occupying the upper part of the cranium, and divided into two hemispheres, each of which is subdivided into an anterior, middle, and posterior lobe; *b c*, between these lobes, are fissures or boundaries termed clefts or *solci*, which penetrate to the depth of about an inch. The two hemispheres of the cerebellum or little brain, which occupies the lower or back part of the cranium, are marked *d*. They differ in form and arrangement from the superior portion, being composed of flattened *laminæ* or layers; *e* is the *medulla oblongta*, very much the smallest portion of the mass, which passes out of the cavity of the cranium into that of the vertebral canal, being a continuation of the spinal cord, of which the whole brain may be considered as an expansion; *g*, *l*, *f*, *o*, mark the shape and position of certain cerebral nerves; *h*, olfactory nerves.

view the head as we see it daily around us—as it is with toiling, rejoicing, sorrowing men, clothed and covered with skin and hair, provided with organs of most beautiful and complicated structure, and, like those of the rest of the body, well adapted to answer the necessary purpose of man's duplex nature—bodily and spiritual.

THE BRAIN.

This is a collective term, signifying those parts of the nervous system, exclusive of the nerves themselves, which are contained within the cranium. The human brain, the average weight of which is three pounds in the male, and four or five ounces less in the female, is divided into three distinct parts, called the cerebrum, cerebellum, and medulla oblongata; these several parts are invested and protected by membranes, and the whole together constitute the *encephalus*—Greek for within the head. Of the membraneous coverings which enclose that soft, pulpy, organic mass, two have been called *mater* (mother), from the old notion that they gave rise to all the other membranes of the body; these are the *pia mater* and *dura mater*—the former is a very delicate tissue, covered in every part with minute blood-vessels, which are, in fact, the nutrient arteries of the brain, before entering which they divide and subdivide upon the external surface to an extreme degree of minuteness, so as to prevent the blood entering upon the tender cerebral substance in too forcible a manner. The *dura mater* is a much stronger and coarser membrane, which lines the inner portion of the skull, and forms an external covering for the brain and its appendages. It gives off several elongations, which are called processes, and which descend between certain portions of the brain; that termed the superior longitudinal process is the most remarkable, on account of its size—it extends from the fore to the back part of the skull, between the latter halves of the cerebellum, and, on account of its shape, is called *falx cerebri*, meaning scythe-like.

FIG. 7.



Spinal Cord.

It has been well observed that, taken as a whole, the nervous mass constituting the brain is strictly symmetrical—that is, the different parts of which it is composed are so arranged that, if the organ be supposed to be divided into two lateral halves by a plane passing perpendicularly through the centre, the parts placed on each side of this plane have a perfect correspondence with each other, and form, in fact, reduplications of each other. The principal parts of the cerebral mass are thus double, but they are all united in the median line with their halves of the opposite side. This union is effected by medullary bands of various sizes, and fissures, which pass from one to the other, called commissures. There are also ventricles, by which the cerebral parts are separated from each other at certain places; four of them are commonly enumerated; they communicate with each other; the two largest are termed lateral ventricles; they pass into the interior of the cerebellum.

FIG. 8.



Vertical Section of the Brain.

a, *b*, *c*, the cerebrum; *d*, the cerebellum or little brain; *e*, *f*, spinal marrow; *g*, pons varolii; *h*, *i*, cranial bones; *k*, optic thalamus; *m*, frontal sinus; *p*, hard palate; *g*, the larynx; *z*, mouth of Eustachian tube.

Under the microscope, the cerebral substance is found to be composed of pulp containing both cells and tubes; the outer portion of it is termed cineritious, on account of its brownish-grey color; by some it is termed cortical, from *cortex*—bark—because it forms, as it were, the first coat of the mass; by others, glandular or secretory, on the supposition that it is of the nature of a gland whose office is that of secretion. It consists of fine cellular membrane, sustaining and connecting a complete net-work of small blood-vessels. Larger in quantity, and firmer in consistence, is the inner substance termed white or medullary; it is said to consist of minute fibres, woven together like plaited straw. In man the brain is much larger than in

that of the inferior animals—that of an ox scarcely weighs a pound. It is in the human brain chiefly that those great inequalities of surface exist—those "developments" on which phrenologists build their theories; they are not found in the hare or rabbit, nor in the Rodentia generally; they are neither so bold nor so deep in the ox as in the horse, nor so much so in the horse as in the dog, seeming to increase or diminish very much with the ratio of intelligence, as does also the bulk of the brain; in fishes it is very small, and in the invertebrate animals diminishing to mere nervous ganglions. It is curious to observe that while in the chaffinch, or robin, among birds, it approaches to the proportionate size of that of the human being, in the goose it bears a very much smaller proportion to the bulk of the body.

FIG. 9.



The Cerebellum, or Small Brain, as seen from the back.

The following are the proportions of the different substances that compose the grey and white matter of the brain:

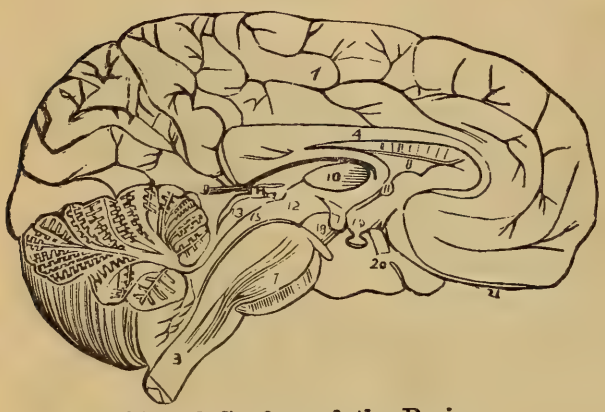
	GREY.	WHITE.
Water,	85.2	73.0
Albuminous matter,	7.5	9.9
Colorless fat,	1.0	13.9
Red fat,	3.7	0.9
Osmazome and lactates,	1.4	1.0
Phosphates,	1.2	1.3
	100.0	100.0

THE NERVES.

These are cord-like substances arising from the brain or spinal marrow, and distributed to every part of the system. They are of two kinds—one white and opaque in appearance, and presenting, under the microscope, a tubular or fibrous structure, and the other of a reddish-grey color, semi-transparent, and consisting of cells or vesicles filled with granular matter; these latter kind of nerves are but sparingly distributed in proportion to the former, and appear to

form the apparatus by which the nervous force or energy is generated, to be conducted through the tubular substance to the points of action; we may shortly state, then, of these two kinds of nerves, that one gives feeling and the other motion; and of the whole nervous system of the human body, that it is composed of the brain and cranial nerves; the spinal cord, and spinal nerves, and the sympathetic nerves. Of the structure of the brain we have already spoken; of the spinal cord or marrow we may briefly say, that it is composed of a whitish substance similar to that of the brain, and is covered with a sheath or membrane, which extends from the former organ through the whole length of the spinal column. In Fig. 12 we have a representation of the spinal cord, surrounded by its sheath, marked by the letters E E, the cord itself being represented by A; B is a spinal nerve, formed by the union of the motor root (C) and the sensitive root (D) where the knot or ganglion is seen.

FIG. 10.



Mesial Surface of the Brain.

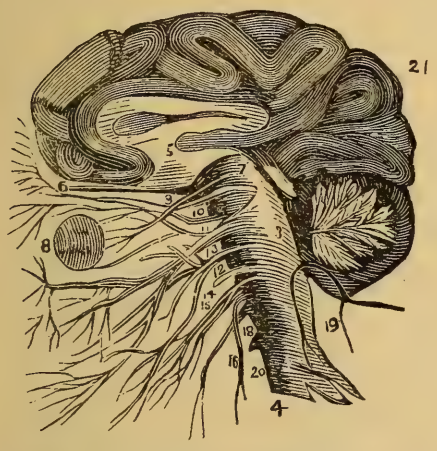
Fig. 10 represents the mesial surface of a longitudinal section of the brain. 1. Inner surface of left hemisphere. 2. Divided centre of the cerebellum, showing the arbor vitæ. 3. Medulla oblongata. 4. Corpus callosum. 5. Fornix. 6. One of the crura of the fornix. 7. One of the corpora aibicantia, pea-shaped bodies between the crura cerebri. 8. Septum lucieum. 9. Velum interpositum. 10. Section of the middle commissure in the third ventricle. 11. Section of the anterior commissure. 12. Section of the posterior commissure. 13. Corpora quadrigemina. 14. Pineal gland. 15. Aqueduct of Sylvius. 16. Fourth ventricle. 17. Pons varolii, through which are seen passing the diverging fibres of the corpora pyramidalia. 18. Crus cerebri of the left side; the third nerve arising from it. 19. Tuber cinereum, from which projects the infundibulum, having the pituitary gland appended to its extremity. 20. One of the optic nerves. 21. The left olfactory nerve terminating anteriorly in a rounded bulb.

The sympathetic nerve consists of a series of these ganglia or knots, which extend down each side of the spinal column, forming a kind of chain throughout its whole length, communicating to both the cranial and spinal nerves, and distributing branches to all the internal organs

These nerves, then, are undoubtedly the organs of feeling and sensation of every kind—through them the mind operates upon the

body. The intelligent mind, whatever that may be, whose seat is in the brain, *wills* that a certain action shall be performed, and instantly through the main channel of communication, the spinal cord, the message flies, branching off here or there, according to the direction in which the work is to be done, and setting in motion the muscles which perform it.

FIG 11.



Section of the Brain and Spinal Cord, showing the relation of the Cranial Nerves to these organs, and to those of the senses to which they belong.

1, the cerebrum; 2, the cerebellum, with its foliated portion, sometimes termed arbor vitæ; 3 is the medulla oblongata (oblong marrow), which forms the top of the spinal cord, which is represented by 4 and 5; the first pair, or nerves of smell, are marked by 6; the second pair, or nerves of sight, by 7 and 8; the third, fourth, and sixth pairs, which pass to the muscles of the eye, 9, 10, 12; the fifth pair, nerves of taste, which are also the sensitive nerves of the teeth, 11; the seventh pair, passing to the muscles of the face, 13; the eighth pair, nerves of hearing, 14; the ninth, tenth, eleventh, and twelfth pairs, which pass to the tongue, larynx, and neck, 15, 16, 18, 19; and 20 indicates two of the spinal nerves, which latter are arranged in thirty-two pairs, each arising by two roots, the one called the anterior or motor root, and the other the posterior or sensitive root.

FIG. 12.

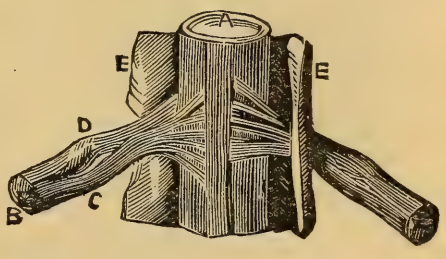


Fig. 15 will give our readers a good idea of the way in which the nerves spread and ramify throughout the body; it represents a back view of the brain and spinal cord. The spine is the great main channel of nervous sensation, and the principal support to the bony frame; this is one of the most important parts of the human structure; it is sometimes called the vertebral column, being composed of a number of vertebræ, or short, single bones, so named from their peculiar construction, the term coming from the Latin *verto*, to turn—these bones turning upon each other in such a manner as to give flexibility to the spine, which is the first developed portion of the skeleton in man, and the centre around which all the other parts are produced. "In its earliest formation," says Wilson, "it is a simple cartilaginous cylinder, surrounding and protecting the primitive trace of the nervous system;

but as it advances in growth and organization, it becomes divided into distinct pieces, which constitute vertebræ."

FIG. 13.



Ganglion of a Sympathetic Nerve.

These admit of division into true and false—the true vertebræ are twenty-four in number, and are classed according to the three regions of the trunk which they occupy into cervical, dorsal, and lumbar—the first having seven, the second twelve, and the third five pieces. The false vertebræ consist of nine pieces united into two bones, called the *sacrum* and the *coccyx*—the first having five, and the last four pieces.

By the aid of Fig. 16 the peculiarities of construction will be best understood. The upper vertebra of the cervical region—termed the *atlas*, because it is the immediate support of the head—differs somewhat from this in shape; so also does the second, called the *axis*, and the seventh or last, termed *prominens*.

In the lumbar vertebræ are the largest pieces of the whole column; here the body is large and broad, and thicker before than behind; the pedicles very strong, and the laminæ short, thick, and broad, as is also the spinous process.

Fig. 19 represents the coccyx (Greek for cuckoo), so-called from its fancied resemblance to a cuckoo's beak; it forms the caudal termination or tail of the vertebral column.

Thus we may understand that the vertebral column, as a whole, represents two pyramids applied base to base, the upper being formed by all the vertebræ from the second cervical to the last lumbar, and the inferior by the sacrum and coccyx.

Viewed from the side this column presents several curves, the principal of which is situated in the dorsal region, the concavity looking forward; in the cervical and lumbar regions the column is convex in front; in the pelvic an anterior concave curve is formed by the sacrum and coccyx; a slight lateral curve also exists in the dorsal region, having its convexity toward the right side.

Did the bodies of the vertebræ rest immediately upon each other, there would be a rigid column which could not be bent in any direction without displacement of the bones; but, to provide against this, they are separated from each other by very elastic "intervertebral cartilages," which yield to every motion of the body, and pre-

vent that shock to the brain which must occur at every step taken, were not some such provision made. Then, again, the vertebræ thus beautifully fitted into each other, and resting upon soft, yielding cushions, are braced together by a series of ligaments of differ-

FIG. 14.

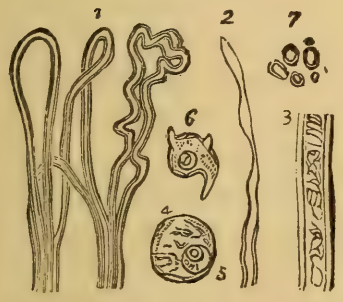
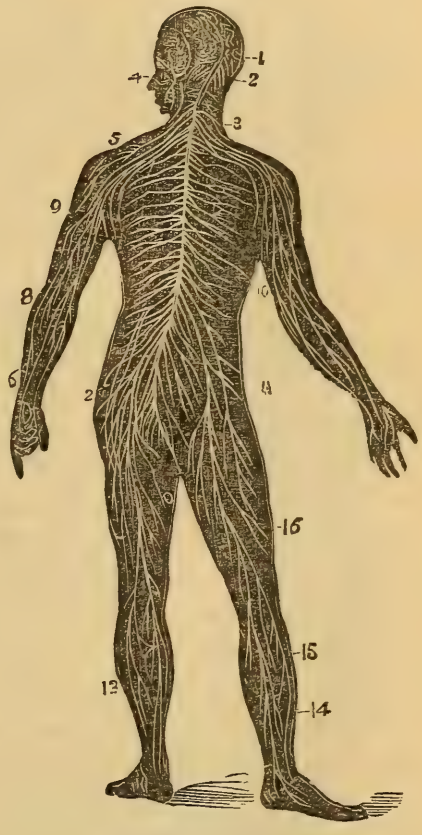


Fig. 14 represents the microscopic elements of the nervous structure. 1. Mode of termination of white nerve-fibres in loops; three of these loops are simple, the fourth is convoluted. The latter is found in situations where a high degree of sensation exists. 2. A white nerve-fibre from the brain, showing the varicose or knotty appearance produced by traction or pressure. 3. A white nerve-fibre enlarged to show its structure, a tubular envelope and a contained substance—neurilemma and neurine. 4. A nerve-cell showing its capsule and granular contents. 5. Its nucleus containing a nucleolus. 6. A nerve-cell, from which several processes are given off; it contains also a nucleated nucleus.

FIG. 15.



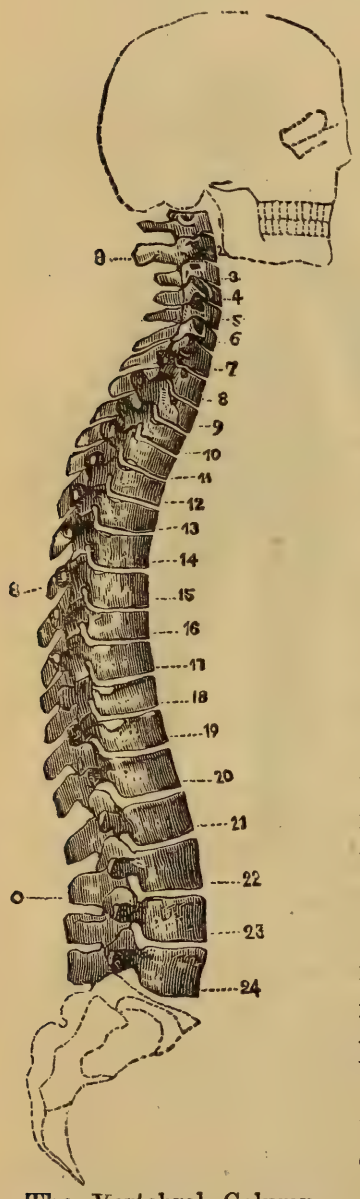
The Nervous System.

1, the cerebrum. 2, cerebellum. 3, spinal cord. 4, nerves of the face. 5, the brachial plexus or union of nerves. 6, 7, 8, 9, nerves of the arm. 10, those that pass under the ribs. 11, lumbar plexus. 12, sacral plexus. 13, 14, 15, 16, nerves of the lower limbs.

ent kinds, which, while they allow of all necessary motions, yet restrain it from going too far. By means of these and the muscles, which are mostly attached in a longitudinal direction, and chiefly to the posterior portions of the vertebræ, the equilibrium of the spine, and the motions of the body generally, are effected.

Each vertebra having a triangular opening corresponding in position with the rest, there runs through the whole of the column a canal, which is filled with the nerve substance and membranes, composing what is called the spinal cord, that communicates with the brain through an opening in the base of the skull.

FIG. 16.

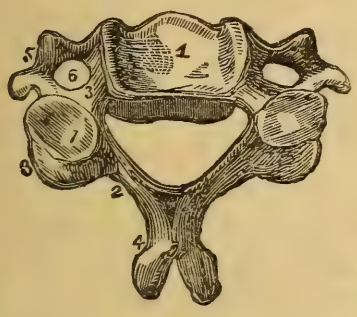


The Vertebral Column.

It is scarcely necessary for us here to go more deeply into the structure of the nervous fibres and cells, else might we state many curious and interesting facts concerning this part of the animal economy. Some idea of their nature and the beauty of their arrangement may be seen by the accompanying diagrams. Like the veins and arteries, they spring from great main channels, which may be compared to the stem and arms of a tree, and branch out from thence in every direction, dividing and subdividing into the most minute ramifications —so that you can not so much as prick any part of the surface of the body but pain is felt, a sure evidence that a nerve has been touched; nay, so much as a breeze cannot blow upon the body, nor the wing of an insect touch it, but the nerves give information thereof to the brain, and the mind is made aware of the cause, and takes its measures accordingly. Delicate strings are these nerves of an instrument of exquisite sensibility—so delicate as to be sometimes invisible to the unassisted vision, that in many parts we are only made aware of their presence by the effects which they produce. They take cognizance of the slightest sound, the faintest ray of light, the least change in the constitution of the air we breathe, and of the food we eat; they are the vigilant sentinels ever watching to guard the body from danger; the constant ministers to its pleasure and delight; often they are attacked and abused, their fine sen-

sibilities deadened and perverted, so that they become subject to disease, and avenge the injury done them by a train of the direst sufferings to which humanity is liable.

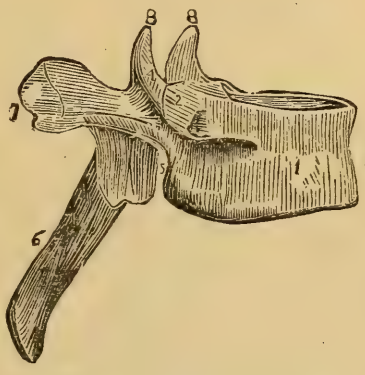
FIG. 17.



A Central Cervical Vertebra, seen in the upper surface.

1 is the body, concave in the middle, and rising on each side into a sharp ridge. 2, the lamina of which there is one on each side, commencing at posterior part of the body by a pedicle (3), and expanding and arching backward to meet the other, the two enclosing a foramen or opening through which the spinal cord passes. 4 is the bifid spinous process, and 5 the bifid transverse process: these are both intended for the attachment of muscles; it is the succession of the former projecting along the middle line of the back, which has given rise to the common name of the vertebral column—the spine. 6 marks a vertebral foramen—there is a corresponding one on the other side, and through these pass the vertebral artery and vein, and plexus of nerves. 7 and 8 are the superior and inferior articular processes, the first looking upward and backward, the last downward and forward; of these there are four in each vertebra; they are designed to articulate with the vertebra above and below.

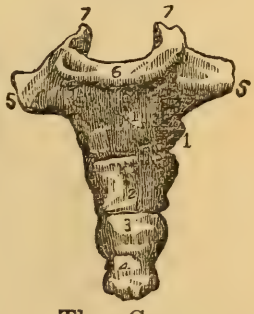
FIG 18.



A Lateral or Side View of a Dorsal Vertebra.

1; the body. 2 2, articular facets for the heads of the ribs. 3, pedicle. 4 and 5, superior and inferior intervertebral notch. 6, the spinous process. 7 is the extremity of the transverse process, marked by an articular surface, for the extremity of a rib. 8 and 9, the two superior and two inferior verticular processes.

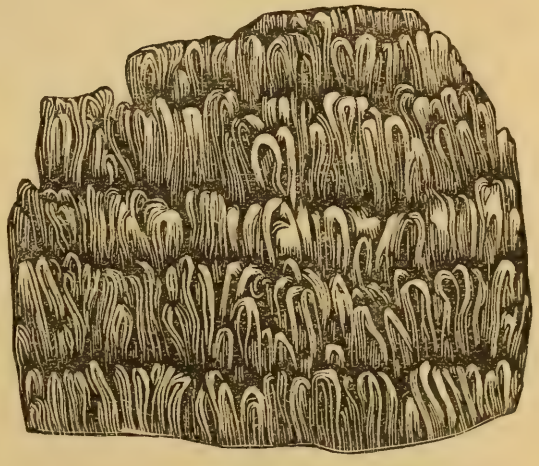
FIG. 19.



The Coccyx.

1, 2, 3, and 4 are the four pieces of bone composing it. 5 5, the transverse processes of the front pieces. 6, articular surface for the extremity of the sacrum, which is the triangular bone composed of five false vertebra, forming the base of the column. 7 7, the cornua or horns which articulate with the sacral cornua.

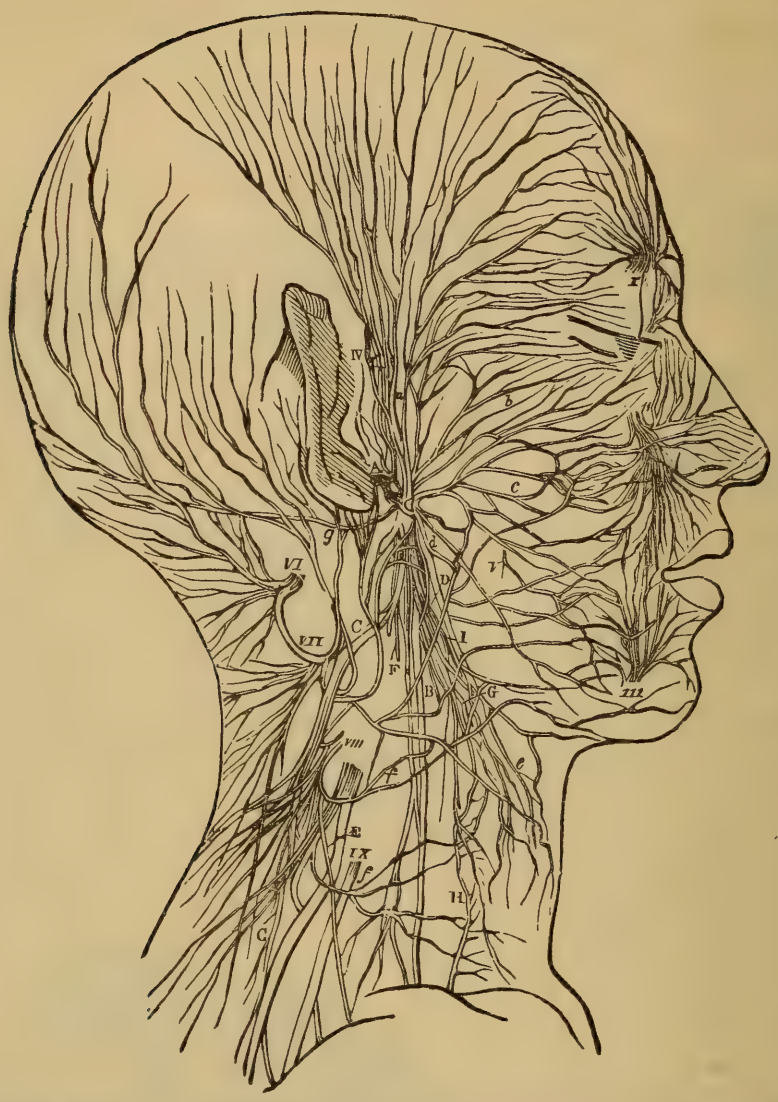
FIG. 20.



Nerves of the Papillæ of the Skin.

A very highly magnified view of the terminal loops of the sensitive nerves as they rise in the rows of papilla, giving sensibillty to all parts of the body.

FIG. 21.



DESCRIPTION OF FIG. 21.—I. Frontal branch of the fifth nerve of the brain which bestows sensation alone. II. Superior maxillary, or that branch of the fifth nerve which supplies the upper jaw, and which, like the last, arising from the sensitive root, bestows sensation alone. III. Mental or inferior maxillary branch of the fifth nerve. This also comes from the sensitive root. It is called mental, because it is involved in that expression which indicates the emotions of the mind. IV. Temporal branches of the same fifth nerve. They are distributed on the temples, and are for sensation. V. The only branch of the fifth nerve which arises from the smaller or motor root, and assists in the motion of those muscles which are employed in mastication or chewing. VI, VII, VIII, IX. These are spinal nerves—the first of the series which come out between the vertebra, in the whole length of the spine, to supply the body generally with motion and sensation. A, The facial nerve. It is situated in the front of the ear, and is the motor nerve of the features. It sends branches (*a*) to the muscles of the forehead and eyebrows. Branches (*b*) to the eyelids. Branches (*c*) to the muscles which move the nostrils and upper lip. Branches (*d*) to the lower lip. Branches (*e*) going down to the side of the neck. Connections (*f*) with the spinal nerves of the neck. A nerve (*g*) to a portion of the muscle that is in the back of the head, and to muscles of the ear. B. The nervus vagus, or the wandering nerve, so named from its extensive distribution. This is the grand respiratory nerve. C. The spinal accessory nerve. D The ninth nerve, which is the motor nerve of the tongue. E The nerve which supplies the diaphragm. F. Branch of the sympathetic nerve. G. A branch of the nervus vagus which goes to the superior portion of the larynx or windpipe. H. Another branch of the vagus, which goes to the inferior portion of the larynx. I. The nerve which goes to the tongue and upper part of the gullet called the pharynx.

DISEASES OF THE HEAD, BRAIN, AND NERVES.

APOPLEXY.

This is deprivation of life or motion by a sudden stroke or blow; it is one of the most awful and appaling modes of sudden death; in an instant a healthful and vigorous man is smitten down—one who has exhibited no signs of decay or disease—who has perhaps received no premonitory warning, lies before us motionless and stark.

Apoplexy may be either cerebral—proceeding from congestion or rupture of the brain—or pulmonary—proceeding from hemorrhage into the parenchyma of the lungs. The first is its more common form, and this may be spoken of under four heads: first, when it is sudden and violent at once; second, when it is comparatively slight at the commencement, and progressively increases in severity; third, when it commences in apoplexy and terminates in paralysis; fourth, when it commences in the latter, and terminates in the former.

Causes.—The causes of apoplexy are either predisposing or exciting; among the first may be named, first: Sex—men are more liable to it than women, because they are more subject to its exciting causes, of which we shall presently speak; second: Age—it is very rare in childhood, rare also in youth, most common between the ages of forty and seventy—rare much beyond the latter age; third: Bodily Conformation—the man of sanguine and plethoric temperament, with large head, short neck, and full chest, is most liable to its attack, although one of the opposite state and condition of system is sometimes smitten down with it; fourth: Mode of Life—persons of sedentary habits, who live luxuriously, are its frequent victims; fifth: Suppression of Evacuations or Eruptions—as the piles, perspiration, healing of a seton or a wound; sixth: Mental Anxiety—such as a long continuance of harassing fears, business perplexities, grief, or any violent emotion or passions. All these are predisposing causes of apoplexy, to which it has been said that the studious are more liable than others; but this is an error, as the history of lawyers, judges, and philosophers, ancient and modern, is sufficient to show. Persons of advanced age, who take rich and stimulating diet in more than sufficient quantity, and whose intellectual faculties are exercised but little, are those most frequently carried

off by this embodiment of the Greek idea of the "skeleton at a feast." The most powerful exciting causes of apoplexy, then, are intemperance, whether in eating or drinking, as well as violent exertions of the mind and body—whatever, in short, tends to determine the blood with an undue impetus to the brain or impedes its return from it, is an invitation to this dreadful destroyer to step in and arrest the vital current in its flow, as the breath of frost stays the water of the river.

Symptoms.—Apoplexy may be known by the patient falling down in a state of insensibility or stupor, out of which it is impossible to rouse him by any of the ordinary means; the face is generally flushed, the breathing difficult and stertorous; the upper lip-margin is projected at each expiration; the veins of the head and temples protrude as though overfilled, the skin is covered with perspiration, and the eyes are fixed and blood-shot; sometimes, however, the face is pale, with a look of misery and dejection; and the pulse, instead of being full and hard, is weak and intermitting.

Treatment.—This, of course, must vary considerably in accordance with the pathological condition of the brain of the person attacked, and with other circumstances which only those accustomed to the treatment of disease can judge of. The immediate measures to be adopted when a fit of apoplexy comes on are the following: Place the patient in a sitting position, with the legs depending; remove everything about his neck, and let the air be freely admitted; apply cold wet cloths to the head and neck, and mustard plasters to the soles of the feet; if the patient be old and the pulse weak and feeble, the skin bloodless, and the countenance pinched, warm flannel and hot bricks should be used, and cold water should be dashed in the face, strong spirits of ammonia applied to the nostrils, the feet put into a warm bath with a little mustard, and every means taken to arouse the patient from his state of lethargy. As soon as this is so far effected that he can swallow, give ½ dram of aromatic spirits of ammonia in 1½ ounces of camphor mixture, as a stimulant draught, but it is only when the pulse is feeble and fluttering that the stimulant may be administered; this is the exceptional case in apoplexy—most commonly the symptoms are those first described. Purgatives must be got down as soon as possible; 10 grains of calomel placed on the tongue, and washed down with a black draught, or 2 or 3 drops of croton oil may be rubbed on the back of the tongue, and an injection composed of 2 tablespoonsful of common

salt, with a little oil or butter, and a pint of warm water; or a tablespoonful of soft soap mixed with the same quantity of water; or an ounce of spirits of turpentine, rubbed down with the yolk of an egg, and a pint of thin gruel; one of these should be repeated every two hours until some decided effect is produced. Other means of relieving the system may be taken should these fail, such as blisters behind the ears, to the nape of the neck or calves of the legs; should the head be very hot let it be shaved, and a cold lotion be applied to it—water and vinegar or acid water will do best. Should the attack be soon after a full meal, administer an emetic—a scruple of sulphate of zinc with a grain or two of tartar emetic; something like this should always be given when apoplexy arises from the effects of opium or spirits. In all cases, after the crisis of the disease is over, and when the patient has become convalescent, it behooves him to be very careful, as a slight indiscretion may bring on a fresh attack.

We have said that apoplexy comes without warning, but this is not strictly true. However sudden the attack itself may be, there are certain premonitory symptoms which no prudent man will disregard. Among these may be named a sense of fulness in the veins of the head, and a feeling of pressure in the head itself, with occasional darting pains, giddiness, vertigo, partial loss of memory, and the powers of vision and of speech; numbness of the extremities, drowsiness, and a dread of falling down; irregularity in the action of the bowels, and involuntary passage of urine. These all indicate that some internal mischief is going on, and if their warning is attended to the threatened attack may, perhaps, be avoided. Persons whose full habit of body and modes of life predispose them to this disease, should, when such warnings reach them, live sparingly, avoid stimulants, especially fermented and spirituous liquors, take regular and moderate exercise, sleep on a firm pillow with the head elevated, and nothing round the neck to impede the act of breathing; the mind should be in a cheerful condition, and free from excitement; sexual indulgence should rarely be resorted to; late suppers must be avoided, and a hard hair mattress used for sleeping on. Keep the bowels regulated by an occasional dose of saline purgatives. Those of a spare habit should take light, although nourishing diet, a little beer or wine, if they have been accustomed to it, and it does not affect the head; spirituous liquors and hot spices should be avoided, and great bodily fatigue or nervous excitement of any kind.

Herbal or Eclectic Treatment.

The great object is to draw the blood from the head and equalize the circulation. To do this apply cold water to the head, face, and neck, and place the feet in warm water to which has been added some powdered mustard or Cayenne. An injection must be used if the patient shows no symptoms of rapid recovery, the same as in the regular treatment, and also the croton oil.

It is desirable to promote perspiration, which may be done by using composition powder, pennyroyal or catnip tea. After recovery, observe the rules regarding diet, etc., as before directed, and take abundance of exercise in the open air.

CATALEPSY or TRANCE.

A spasmodic seizure, which causes a rigidity of the limbs, retaining them in a certain position, however inconvenient or painful.

Causes.—The causes of this disease are seldom local, but such as affect the whole system; catamenia, worms, and painful emotions of the mind, or impaired digestion, may be mentioned as among the most frequent; women are more subject to these attacks than men; and, sometimes, they result in apoplexy, epilepsy, or melancholia.

Symptoms.—The symptoms are a sudden deprivation of all power of motion and sensation; the patient remaining in precisely the same position as he was when seized: the attack comes on suddenly, without any warning, except, it may be, a slight languor of body and mind, and lasts for several minutes, or perhaps hours, although the longer period is rare; if, during the fit the position of the limbs is altered, they will remain as placed, and when the paroxysm is over, there will generally be no consciousness of what has transpired while it lasted; in this respect it resembles the mesmeric sleep, or the state of insensibility produced by the inhalation of ether or chloroform.

Treatment.—The treatment must depend upon the probable cause; if the patient is of a plethoric habit, cupping at the back of the neck, blisters, a seton or an issue, with the administration of cathartics; if debilitated, tonics and anti-spasmodics must be given. During the attack apply mustard plasters to the palms of the hands, and soles of the feet, pit of the stomach and spine; cold water may be dashed

in the face, if the fit continue long, and strong ammonia applied to the nostrils; a mixture of ether, fœtid spirits of ammonia, and tincture of musk, 2 drams of each to 8 ounces of peppermint water, should be administered in ounce doses every quarter of an hour, or so. On recovery, the system should be strengthened as much as possible with good diet, gentle exercise, sea bathing, or the cold shower bath; chalybeate waters may also be drunk with advantage, or preparations of steel, bitter infusion, or cascarilla with aromatic spirits of ammonia.

CONGESTION.

Applied to undue fulness of the blood-vessels; those of the brain are most usually so affected, owing to the unyielding nature of the bones of the cranium, which do not admit of expansion for any increased quantity of blood which may flow in. Most of the other important viscera are contained in cavities with yielding walls, and in them a greater fulness of the veins than usual is not generally attended with such dangerous effects.

Causes.—Congestion may be anything which impedes the whole circulation so as to increase the action of the heart; any pressure on the veins which obstructs the passage of the blood through them; a dilation of the coats of the veins from debility; cold applied to the surface of the body, or a dry state of the skin; a decay of the cells in the small secreting cavities, blocking them up, causing local congestion, which, if not relieved, may lead to that of the whole system. It is caused by morbid accumulation of blood in the vessels, and may proceed from various causes; persons of a full, plethoric habit are most subject to it.

Treatment.—Quiet both of mind and body, with cooling aperient medicines, abstinence from all rich and stimulating food and drink, is the proper treatment; in those of spare, weakly habit, it is sometimes owing to want of vital energy, and in this case, the diet should be rich and stimulating; and the aperients, if required, must be of a cordial nature; but all this should be left to the medical practitioner; the disease too nearly affects the issues of life and death, to be tampered with.

Concussion or Inflammation of the Brain

Is nearly always produced by a blow or a fall; it is one of the most

frequent injuries to which this part is exposed; it may be either slight or severe, in proportion to the intensity of the exciting cause; in the former case the effect is but momentary—the patient is stunned, but very soon recovers consciousness, and perhaps feels no more of it, except a little tenderness of the part struck; in the latter case he remains unconscious, without the power to move or speak; the pulse is slow and feeble, the breathing difficult, frequently there is vomiting, and an unnatural contraction or dilation of the pupils of the eyes; in this case but little can be done beyond putting the patient to bed, and keeping the surface of the skin warm by frictions and hot applications; when there is extreme depression, a little brandy or sal volatile may be given, but very sparingly, because, if death does not ensue, there will be reaction, with an inflamed state of the organ. If it is simple concussion, a fatal termination is not likely; but sometimes the shock causes rupture of the substance of the brain itself, or its enclosing membranes, or of one or more of its blood-vessels, causing effusion; in this case the patient may never rally from his state of stupor, or, if he does, it will be but for a short time; there will probably be convulsions, paralysis, and apoplectic termination of his sufferings. All these are characteristic of inflammation. In so acutely sensible an organ as the brain, it must be evident that an inflamed state of the tissue is by all possible means to be avoided; hence, when reaction sets in after the stunning and depressing effects of concussion have passed off, the most active measures should at once be taken.

If a medical man is not within call, and the alarming symptoms increase in intensity, there may be sufficient warrantry for an unprofessional person to bleed; eight, ten, or twelve ounces of blood may be taken from the arm, or a dozen leeches may be applied about the head, or the patient may be cupped in the nape of the neck; the latter is, perhaps, the best mode of depletion, as it is effected quickly, and very near to the seat of disease. The hair of the head should also be cut or shaved off, and rags wet with cold water applied; if iced, so much the better. A thorough purging should be given, as the following:

Pulverized Gamboge,	12 grains.
Pulverized Scammony,	12 grains.
Elaterium,	2 grains.
Croton Oil,	8 drops.
Extract of Stramonium,	3 grains.

Mix; make 12 pills, and give 1 pill every three hours till it operates. To reduce the pulse and cause perspiration, give 4 drops of tincture of veratrum, in a little sweetened water, every hour, till the desired results are produced.

Among the symptoms of inflammation of the brain, or its investing tissues, may be mentioned as prominent: shivering, succeeded by heat in the skin; great thirst; tongue furred; pain in the head; intolerance of light; bloodshot eyes, with a wild, wandering look; sickness, and delirium. There may be violent and obstinate vomiting, as a first symptom, followed after a time by the others, or some of them. It should be borne in mind that concussion of the brain is not always the result of a blow; it may be produced by a violent shock to the nervous system, such as that caused by coming down heavily on the feet from a leap. In cases of

Fracture of the Skull,

The same symptoms as those described are likely to occur, as in these there is generally both concussion, and its common result, inflammation. In children, especially those of a scrofulous habit, inflammatory action very commonly leads to a form of disease popularly called water on the brain, or hydrocephalus; most commonly, however, this is a chronic disease dating from birth, or soon after.

The state and condition of the brain, even when not subjected to the action of any particular disease, varies considerably in accordance with the advance of years; very frequently in old age there is a deficiency of blood in the vessels of the brain, and this occasions very distressing symptoms, such as headache, giddiness, slowness of intellect, and paralysis. Very much the same results follow a softening of the brain, only in an aggravated degree; in this case imbecility and paralysis are almost sure to come, and there is little or no hopes of any alleviation of them. In old age, too, it should be observed that the arteries of the brain become less elastic than at an earlier period of life, more brittle and liable to rupture; hence indulgence in any excesses, or violent exertion, should be especially avoided by the aged.

CONVULSIONS, or FITS.

Involuntary contractions of the muscles of a part or the whole of

the body—generally with corresponding relaxations, but sometimes with rigidity and tension; in the former case they are called clonic spasms, as hysteria; in the latter tonic spasms, as lock-jaw; when the convulsions are slight and rapid they are called tremors. They are universal, affecting all the limbs more or less, and the muscles of the face and those of respiration, as in epilepsy, and the convulsions of children; and partial, when they only affect some of the muscles irregularly, as in chorea or St. Vitus' dance.

Causes.—Convulsions in children are generally caused by the lodgement of acrid matter in the intestines, flatulency, the irritation of teething, worms, water on the brain, the striking in of a rash, or the accession of some disease, such as small pox, scarlatina, etc. A very trifling functional derangement will often be sufficient to produce them, and the younger and the more irritable the child is, the more liable will it be to their attacks.

Symptoms.—Convulsions are violent spasmodic affections, with or without intermission; previous to their coming on there is generally giddiness, coldness of the extremities, dimness of vision, tremblings, and a creeping chill up the spine. There are also, particularly in adults, anxiety of mind and dejection of spirit, nausea, and a sense of faintness, yawning, and a feeling of stretching, swimming in the head, and palpitation of the heart. When the fit is on, the teeth chatter, the tongue is protruded and often bitten, there is foaming at the mouth, the eyes roll wildly, there is a struggle for breath, and a clutching of the hands, which are often clenched so that the nails enter into the flesh; sometimes the lips and cheeks and the whole surface of the face and arms become purple, and the veins stand out as though they would burst; and so great is the muscular force exerted that several attendants are required to keep the patient from bodily injury. A violent paroxysm may last but a few minutes only, or for several hours, and may have longer or shorter intermissions. It is followed by extreme languor, frequently by headache and giddiness, but these often pass off very quickly, and leave no symptoms of constitutional derangement whatever.

Treatment.—Treatment will depend greatly on the cause. If it be worms, give vermifuges and anthelmintics; if teething, scarification of the gums; if improper food and indigestion, a gentle emetic and afterward an aperient; if acrid matter in the bowels, a laxative clyster and aperient; if flatulency, carminatives; if repelled eruptions, the warm bath; if effusion on the brain, cold lotions to the

head, and small doses of calomel, frequently repeated, with purgatives, if the bowels are sluggish; hot applications to the extremities, also, are advisable in this case, and sometimes leeches to the head; but it is hazardous to apply them, except under profesional direction. In all cases of infantile convulsions, and in some of adults, the warm bath is advisable; the temperature should be about ninety-eight degrees, and in most cases opening medicines, with at least one dose of calomel put on the tongue.

In adults, convulsions may be apoplectic, epileptic, hysterical, or puerperal, as the case may be. Some narcotic poisons produce them, such as opium, prussic acid, some kinds of fungi, ardent spirits, and indigestible substances. In all these cases, emetics would be the first remedies, and the stomach-pump; then volatiles and stimulants —as ammonia, valerian, and a stream of cold water poured upon the head from a considerable height. Convulsions may be caused by excessive mental emotion, and sometimes by long-continued diseases, such as dropsy, jaundice, and fever.

When a person is taken with a fit, proceed thus: Loosen any part of the dress which may appear tight, especially about the neck and chest; if a female, cut the stay-lace, as tight-lacing often causes fits; sprinkle cold water on the face, and apply volatile stimulants to the nostrils; rub the temples with eau de cologne, ether, or strong spirit of some kind, and blow upon them; and as soon as the patient can swallow, give 30 drops of sal volatile in water, or the same of ether, or, if neither are at hand, a little cold brandy and water.

When the fit is over, a gentle aperient should be taken, to be followed by cold bathing, exercise, and, if possible, by a change of air.

DIZZINESS.

Many persons are subject to a fulness and rush of blood to the head, either with or without any excitement. It is a symptom of a deranged system, and it may be a symptom of a tendency to apoplexy.

Causes.—This condition may be caused by heart disease, by debility arising from hemmorrhages, indigestion, constipation, or excessive mental labor.

Treatment.—What has been said on congestion of the brain ap-

plies to this affection; a dose of some gentle purgative should be taken, as castor oil, salts, or salts and senna, should be taken at night, and the following in the morning:

Rochelle Salts,.....2 drams.
Bicarbonate of Soda,.....2 scruples.
Water,.....½ pint.

Mix. To this mixture add 35 grains of tartaric acid. Take the whole while foaming.

DELIRIUM TREMENS,

Delirium ebriositatis, or mania-a-potu, is a disease of the brain, usually caused by an abuse of spirituous liquors, but sometimes also by great mental anxiety and loss of sleep; or it may result from bodily injuries or accidents, loss of blood, etc. Delirium sometimes makes its appearance in consequence of a single debauch; but more frequently it is the result of protracted or long-continued intemperance. It usually supervenes on a fit of intoxication; but it not unfrequently occurs, also, when the habitual drunkard omits his accustomed draught.

Symptoms. — The approach of an attack is almost invariably preceded by the patient being remarkably irritable, with fretfulness of mind and mobility of body. He becomes very nervous and uneasy; is startled by any sudden noise, the opening of a door or the entrance of a visitor; is restless; the hands and tongue are tremulous; he complains of inability to sleep, and if he dozes for a moment, he is awakened by frightful dreams. Soon delirium manifests itself; if questioned, the patient often answers rightly enough; but if left to himself, he begins to talk or mutter; he is surrounded by frightful or loathsome animals; is pursued by some one who has a design upon his life; has terrible and ghastly visions. Though most commonly of a frightful or terrifying character, the delirium is not always so: occasionally the appearances are droll and ludicrous, and the patient seems amused by them; at other times it turns on some matter of business, as settling of accounts or telling of money, and the patient is in a perpetual bustle, and his hands are constantly full of business. The predominant emotion with the delirious patient is fear, and in his efforts to escape from an imaginary enemy, he may be guilty of a murderous assault, or, as is more frequently the case,

may take his own life; and hence he requires to be very carefully watched. "The strong features of this complaint," says Watson, "are sleeplessness, a busy but not angry or violent delirium, constant chattering, a trembling of the hands, and an eager and fidgety employment of them. . . . The tongue is moist and creamy; the pulse, though frequent, is soft; the skin is perspiring, and most commonly the patient is drenched in sweat." The delirium continues until the patient sinks into a sleep, from which he awakes comparatively rational, or dies from exhaustion. In such cases death is often sudden, the patient rising for some trivial purpose, and falling in a faint, from which he never recovers; or at length, after passing many nights without sleep, he sinks into a state of coma, which terminates in death. This disease, however, is rarely fatal, unless where the strength of the patient has been seriously impaired by long-continued excesses.

Treatment.—The great remedy is sleep, and the best means of inducing this is by opium, which is to be given in large doses, and frequently repeated, until the desired effect follows. Sometimes it is necessary, in order to procure sleep, if the patient is in a very exhausted state, or if the disease has been brought on by the cessation of an accustomed stimulus, to allow the patient a certain quantity of his ordinary beverage; but this should not be continued longer than he can do without it. Chloroform has also been recommended as a means of procuring sleep when opium fails; or better probably than either will be found to be the hydrate of chloral, in doses of twenty to forty grains. Some medical men recommend large doses of digitalis, but the nature of this remedy renders it unadvisable in the hands of any but a medical man.

If these efforts are successful and the nervous excitement is subdued, there will be great prostration of strength. The great object will then be to restore the tone of the stomach, and to enable the patient to overcome that craving for alcoholic stimulants, which is sure to send him back into the paths of intemperance if it is indulged. A bitter infusion of camomile is perhaps the best, but carbonate of soda, or potash, in six or eight grain doses, should be given with a small portion of alcohol; it may be brandy mixed with yolk of an egg, beaten up raw, or with arrowroot, some bitter ale, and good nourishing food. A cold shower bath affords great relief.

This disease is to be carefully distinguished from inflammation

of the brain, with which it has many symptoms in common; for bleeding, which is resorted to in the latter disease, would be of the utmost danger in this.

EPILEPSY.

Epilepsy is a form of disease which receives its name from the suddenness of its attack. It is also called the *falling sickness*, from the patient, if standing, suddenly falling to the ground. By the ancients it was called the sacred disease, from being supposed to be due to the influence of the gods or evil spirits.

Causes.—Among the causes which give rise to epilepsy are external injuries done to the brain by blows, wounds, fractures, and the like; or internal injuries by water in the brain, tumors, concretions, and polypi. Violent affections of the nervous system, sudden frights, strong mental emotions, acute pains in any part, worms in the stomach or intestines, teething, suppression of accustomed evacuations, excesses, masturbation, &c., are causes which also produce epilepsy. Sometimes it is hereditary, at other times it arises from a predisposition, occasioned either by plethora or a state of debility. When it arises from hereditary predisposition, or comes on after the age of puberty, or when the attacks are frequent and of long duration, it is usually difficult to effect a cure; but occurring in early life, and occasioned by worms or any other accidental cause, it may, in general, be remedied.

Symptoms.—The attack is usually sudden, without any warning. The patient may be in his ordinary health, engaged, perhaps, in his usual occupation, when all at once he utters a piercing scream, and falls to the ground. Immediately thereafter the face becomes violently distorted, the head is usually drawn to one side, the eyes are set and staring, or roll wildly about, the color of the skin becomes dark and livid, and the veins swollen and turgid; there is frothing at the mouth; the muscles of the lower jaw act violently, producing gnashing of teeth, and frequently the tongue is thereby grievously injured; the arms are sometimes thrown violently about, and the lower limbs may be agitated in a similar manner, while the fingers with great power clutch at whatever comes in their way. The breathing is at first heavy and difficult, but afterwards it becomes short, quick, and stertorous, and is often accompanied with sighing and moaning. One side of the body is commonly more agitated

than the other. After a longer or shorter period, the convulsive movements gradually diminish, and the patient seems to recover a faint glimmering of consciousness; but the look which he casts around is stupid and heavy, and he goes off into a lethargic sleep, from which he does not awake for some hours. There is no consciousness of anything that occurred during the paroxysm. On coming out of the fit, there is generally headache, and always languor, and it may be days before he fully recovers from the effects of the attack. The duration of the paroxysm is usually from five to ten minutes; but sometimes several attacks follow each other in succession, and it may then be protracted for several hours. This is a severe form of epilepsy: but frequently it is less severe, consisting merely of loss of consciousness, slight rigidity, and the convulsion of a few muscles, and lasting only for a minute or two. Occasionally death takes place during the paroxysm; but generally it is attended with little danger, unless the patient may injure himself by falling in some dangerous position. The return of the fit is exceedingly various in different individuals; several years, in some cases, intervening between the attacks, while in others they may occur every month, week, or day. When neglected, they usually become more and more severe, or recur at shorter intervals. Repeated attacks of this disease, in general, soon produce a marked change in the mental and physical character of the individual. There is a gradual diminution of the active powers, purpose becomes irresolute, the spirits are depressed, and the memory fails; the features become coarse, heavy, and inexpressive, and the look vacant. The most frequent, perhaps, of the consequences of confirmed epilepsy is insanity, either in the form of acute mania or monomania following the attacks, or of gradual imbecility, without any acute seizure. Though the fit, as we have said, usually comes on suddenly, yet there is sometimes distinct warning of its approach. These vary in different individuals, and may be lowness of spirits, irritability, dizziness, noises in the ear, floating specks before the eyes. There is, however, a particular sensation which is said to be felt by some immediately before the attack, and which is known as the *aura epileptica*. It is variously described as resembling a current of air, a stream of water, or a slight convulsive tremor, commencing in one of the limbs, and proceeding upwards to the head, when the patient is deprived of all consciousness. Epilepsy is commonly divided into idiopathic, when it is a primary disease, depend-

ing on some affection of the cerebro-spinal system; and sympathetic, when produced by an affection in some other part of the body,—as the stomach, bowels, liver, circulating system, &c.

Treatment.—During the attack, the principal thing is to see that the patient does not injure himself—especially, a piece of cork or other gag ought to be placed between his teeth, to prevent injury to the tongue; the dress should be loosened about the neck and chest; the head, if possible, a little raised; and a free circulation of air maintained. Where the disease can be traced to any special exciting cause—as injuries of the head, worms, teething, &c.—the treatment should be first directed to its removal. Where, as is often the case, a plethoric state appears to occasion the disease, the patient is to be restricted to a low diet, frequent purgatives are to be exhibited, and everything avoided that may determine the blood to the head; and to counteract such a tendency, occasional cupping, blisters, issues, &c., may be useful. If, on the contrary, there are marks of inanition and debility, a generous diet, with tonic medicines and other means of strengthening the system, will be proper. The cold shower bath is recommended if it can be well borne, otherwise the tepid bath. The oil of turpentine, in frequent doses of a half to one drachm, is said to be of service in many cases. Bromide of potassium is a very valuable remedy, given in doses of ten to twenty grains, three times a day. It is worthy of remark that when *aura* has preceded an attack, it has sometimes been prevented by intercepting its progress by means of a ligature. Stimulants, particularly ether, are said occasionally to keep off an attack. In this disease great care is necessary in the matter of diet, and moderation in quantity and simplicity in character are material points. When the appropriate remedies are judiciously employed, and the proper regimen strictly adhered to, epilepsy is often permanently cured, and the suffering is greatly mitigated even in those forms which do not admit of cure.

Herbal, or Eclectic Treatment.—Observe the same general treatment as before recommended. Give an emetic. The following is a good one:—

Pulverized Lobelia,	1 ounce.
Pulverized Blood-Root,	½ ounce.
Seneca,	1 scruple.
Ipecac,	6 drachms.
Cayenne,	4 scruples.

Mix. Dose, half teaspoonful in warm water; repeat three or four times, at intervals of fifteen minutes.

Bathe the feet and legs in warm water; apply mustard poultices to the nape of the neck; keep the bowels open; and remove all tight bandages, and give plenty of fresh air. An excellent preparation is the following:—

Peony,	1 ounce.
Peruvian Bark,	1 ounce.
Valerian,	1 ounce.
Snake-Root,	½ ounce.

Simmer them together in two quarts of water till reduced to one; add one pound of sugar. Give the patient from one-half to a wine-glassfull three times a day.

On the approach of a fit, give a teaspoonful of fine salt three times a day; it will shorten the patient's sufferings. A silk handkerchief thrown over the face is said to bring a person immediately out of a fit. A person liable to this affliction should exercise the greatest caution in regulating the passions.

FAINTING (*Syncope*).

This is a state of total or partial unconsciousness, occasioned by diminished action of the heart, causing less rapid circulation of blood through the brain.

Causes.—The causes of it are various, and sometimes very peculiar, such as a particular smell; that of a rose, for instance, has been known to occasion it; certain objects presented to the sight; surprise, joy, fear, or any sudden emotions; loss of blood, or anything which tends to debilitate the system by diminishing the vital energy.

Symptoms.—The first sensation of fainting to the patient himself is generally a singing in the ears; then the sight becomes confused, and all the senses deadened; a clammy sweat breaks out over the person, the countenance becomes deadly pale, and the limbs refuse to support the weight of the body, which sinks to the earth as helpless and motionless as a corpse; indeed, the condition so closely resembles that of death, that it is difficult to distinguish it therefrom. This is a complete faint; frequently the fits are only partial, and very limited in duration.

Treatment.—Place the patient in an horizontal position; free the face, neck, and upper part of the chest from all incumbrances; let the fresh air play freely upon them, and sprinkle the former with cold water; holding to the nostrils from time to time some volatile stimulant, such as hartshorn or ammonia; as soon as swallowing can be accomplished, administer about thirty drops of spirits of wine, or sal volatile, in water. The after-treatment will of course depend on the cause.

As the first stage of some forms of apoplexy and paralysis is one of faintness, a little discrimination should be used in the administration of stimulants. Where the seizure, too, is in consequence of loss of blood, no violent efforts at restoration should for a time be made, as this state is necessary for the patient's safety.

Persons subject to fainting should be careful in frequenting crowded rooms, or going anywhere where the air is bad. Tight dresses should be avoided; and no excitement be allowed. A well-regulated diet, cold bathing, and vegetable tonics, will usually cure this distressing infirmity.

HEADACHE.

There is no more common complaint than this, which is symptomatic of so many different diseases, that it is impossible to lay down any general system of treatment. We will, therefore, proceed to enumerate some of the chief kinds of headache, with their symptoms and remedies.

Bilious, or Sick Headache,

is perhaps the most common of any. It generally comes on the first thing in the morning, and may often be relieved by a hot cup of strong tea or coffee; probably because this stimulates the digestive organs, from a defective action of which the pain proceeds. This pain commences usually at one side of the head, most likely on the brow, just over the right or left eye, but when it continues it is diffused over the whole head, and is accompanied by an intolerable feeling of sickness, often by vomiting, and extreme languor and depression of spirits; there is generally, also, singing in the ears, dimness of sight, and confusion of mind, with great restlessness. Sometimes, without any medicine being taken, the bowels, which

have been previously constipated, will be freely evacuated, and the most urgent symptoms are quickly relieved; but it is generally desirable to take some active aperient, preceding or accompanying it with the following:—

Pulverized Rhubarb,	12 grains.
Carbonate of Magnesia,	10 grains.
Aromatic Spirits of Ammonia,	½ drachm.
Syrup of Ginger,	1 drachm.
Spearmint Water,	10 drachms.

This will generally prove effectual, especially if the diet is spare and simple. Take no solid food for twenty-four hours, only a cup or two of tea, or a little thin gruel, and the chances are that there will be no headache next day; although it will probably return as severe as ever in a few weeks, its recurrence in some cases being at almost regular periods. It can generally be traced to some error in diet, such as taking food that is indigestible, or in too large quantities; or stimulating drinks, with insufficient exercise. Very often it arises from some derangement of the biliary secretions, either as to quantity or quality, or defective assimilation; sometimes from the habitual abuse of purgatives, which enfeebles the tone of the alimentary canal. Very commonly a simple dose of rhubarb and magnesia, with about thirty drops of sal volatile, will remove a common sick headache; but when there is nausea, and vomiting or purging does not come spontaneously to remove it, the former should be excited by an emetic, composed of one grain of tartarized antimony and twenty of ipecac; and after this has acted, give blue-pill, one scruple; compound rhubarb pills, two scruples. Mix; divide into twelve pills; take one or two at a dose. Persons subject to this kind of headache should carefully abstain from fat meats, pastry, butter, and rich food generally.

That which we have just been describing is one of the forms of Sympathetic or Dyspeptic Headache, sympathy with a disordered stomach being the immediate cause. Sometimes an excess of alkali, at others of acid, in the alimentary canal, will produce this: in the former case, a vegetable acid, such as vinegar, will afford relief; in the latter case, in which there is likely to be heartburn and acid eructations, a dose of sal volatile, or of carbonate of soda or potash, will be the best remedy. In all these cases, it seems likely that the blood circulating in the brain is both mechanically and chemically

affected by the defective action of the assimilative and secretive organs of the stomach. We sometimes find that the postponement of the customary evacuation of the bowels, for ever so short a time, will cause a sympathetic headache, and that this will be relieved directly the evacuation has taken place,—a clear proof of the intimate connection there is between the head and the stomach.

Congestive Headaches.

So called, because they proceed from a congested state of the vessels of the brain, arising either from an over-fullness of blood or a weakness of the organ, or from an excessive nervous irritability, which frequently upsets the balance of the circulation. Whichever of these may be the case, there is nearly always a dull pain over the whole of the head, which is worst at the fore and hind parts. When it arises from an over-loaded condition of the vessels, there is usually a bloated countenance, with full red eyes, and a dull, inanimate expression; here we find, on inquiry, a sluggish liver, and inflammation of the brain, tending to apoplexy or paralysis.

Leeches to the temples, or cupping on the back of the neck; cold applications to the head, with spare diet and active aperients, will be the proper treatment. A very effectual remedy for removing pain is two or three grains of oxalate of cerium, dry on the tongue; repeat a number of times.

A weak brain is generally a consequence of some long-standing discharge which has debilitated the whole system; and, in this condition of things, if from any cause there is a more than common flow of blood to the brain, there will be headache, with a pale, sallow countenance, and a languid pulse; frequently swelled feet, excessive fatigue on the slightest exertion, with palpitation of the heart, and increase of the pain in the head. Here measures of depletion would be improper; we must soothe and sustain by means of sedatives and tonics, such as hemlock and quinine, either in the form of pills or mixture, as follows:—

Extract of Hemlock, ... 24 grains.
Sulphate of Quinine, ... 12 grains.

Make into twelve pills, and give one three times a day; or,

Sulphate of Quinine, ... 12 grains.
Sulphuric Acid, diluted, ... 12 minims.
Tincture of Hemlock, ... 2 drachms.
Infusion of Gentian, ... 6 ounces.

Take a tablespoonful three times a day. Good nourishing food will be required in this case; and stimulants, such as ale and wine, in moderation. Where the headache proceeds from nervous irritability, the mode of treatment must also be soothing and strengthening; but in this case we must avoid stimulants as much as possible; tonics are best here with plenty of fresh air and exercise, and all that tends to invigorate the frame. A course of hydropathic treatment will generally be found effectual.

Rheumatic Headache

is commonly caused by exposure to cold, especially a draught of air; the pain is chiefly confined to the back and front of the head, and is felt most at night, when the patient is warm in bed; it is a remittent, shifting pain, shooting from point to point, following the downward course of the jaw, whose muscles are commonly implicated.

Treatment.—Use light diet, and abstain from animal food; give attention to the clothing; keep the body and feet warm and dry. When the pain is great, use hot fomentations or mustard plaster on the back of the neck, and give a gentle purgative at night. The following liniment is found very beneficial:—

Soap Liniment,	2½ ounces.
Liquor Ammonia,	½ drachm.
Laudanum,	½ ounce.

Mix, and apply to the part.

Periodic Headache,

Brow-ache, Brow-ague, or Neuralgia of the Head, as it is variously called, is an intermitting pain, which comes on at periods more or less regular, and is confined to the brow. It will nearly always yield to full doses of quinine, especially if combined with hemlock.

Organic Headache,

resulting from actual disease of the head itself, is rare, and when it does occur, only a palliative mode of treatment can be adopted.

Sedatives, such as opium and hemlock, may, for a time, relieve the almost intolerable anguish, but they will not touch the disease itself.

Causes.—The distinct and specific causes to which pain in the head may be assigned, are—Rheumatic inflammation of the pericranium, or of the mucous membrane of the frontal sinus; mental excitement; strong or long-continued impressions upon the senses of hearing, sight, or smell; excessive impetus of blood to the head; impeded return of the same; congestion or inflammation of the brain; suppression of bile, perspiration, urine, &c.; organic disease of the head; sympathy with the stomach, and constipation; frequent use of narcotics or stimulants; intestinal worms; changes in the atmosphere; and neuralgia.

Herbal, or Eclectic Treatment.

As will be seen from the foregoing pages, headaches are produced by a variety of causes; and varies both in cause and symptoms in the same individual at different times. The patient must exercise judgment in discriminating between the different forms of the affection, as also in the selection of the remedies. For headache from congestion, use the following:—

Podophyllin,.....15 grains.
Gamboge,.....15 grains.
Scammony,.....15 grains.
Rhubarb,.....15 grains.
Cayenne,.....15 grains.

Make into twenty pills, adding a little extract of mandrake or dandelion. If podophyllin cannot be obtained, use the same quantity of aloes. One dose of this will generally relieve the headache; but in order to produce permanent relief, a dose must be taken every night for several weeks. When the headache is caused by constipation, the following will be found an excellent prescription

May apple, ...1 ounce.
Mandrake Root,.....1 ounce.
Blue Flag-Root,.....1 ounce.
Golden Seal Root,.....1 ounce.
Yellow Puccoon, ...1 ounce.
Prickly-Ash Bark,.....1 ounce.
Beef Gall, ...1 gill.
Whiskey,..... .1½ pints.

Mix. Let the mixture stand for two weeks. Dose, a teaspoonful two or three times a day.

Citric acid, or lemon juice, is often of great service in easing pain. Put a teaspoonful or two in a glass of cold water, and drink it. Lemonade has cured many cases of sick headache, as has also a tablespoonful of finely powdered charcoal, or of citrate of magnesia. Mix in a little cold water, or milk.

Decoctions of skunk cabbage and of Indian hemp are very useful; as is a snuff made of equal parts of bloodroot and bayberries.

HICCOUGH, OR HICCUP.

This is a convulsive catch of the respiratory muscles, causing spasmodic contraction of the diaphragm, with a partial closure of the larynx. Generally, it is but trivial and transient, causing no permanent inconvenience; but, sometimes when it occurs in the latter stages of acute disease, it is very alarming, indicating a giving way of the nervous system.

Young females of an hysterical tendency sometimes suffer from obstinate hiccup. We have known it continue for weeks with but little cessation, except during the hours of sleep, and, occasionally, breaking in upon them.

Causes.—Long fasting, or the sudden introduction of some strong stimulant into the stomach, will often cause a common hiccup.

Treatment.—Cold water, continually sipped and swallowed, will often prove a remedy; but nothing is so likely to remove it as strong excitement of the mind. Most antispasmodic medicines are likely to be of service, and we have seen the following given with good effect:—

Carbonate of Soda,	1 drachm.
Sulphuric Ether,	3 drachms.
Tincture of Ginger,	2 drachms.
Tincture of Gentian,	4 drachms.
Camphor Mixture,	8 ounces.

Take two tablespoonfuls every two or three hours. Sometimes hot applications to the upper part of the chest and throat will relieve the symptoms.

HYDROPHOBIA (*Rabies*).

This is the well-known canine or dog madness, whose chief symptoms are spasmodic contractions of the larynx, preventing the pa-

tient, although thirsty, from swallowing any kind of liquid,—one of the most dreadful and fatal visitations that can affect humanity.

Symptoms.—When a person has been bitten by a rabid animal, the wound if treated in the ordinary manner will generally heal readily enough; but after an uncertain interval, which lies for the most part between six weeks and eighteen months, the following symptoms begin to be noticeable. The patient experiences pain, or some uneasy or unnatural sensation, in the situation of the bite. If it becomes healed up, the scar tingles or aches, or feels cold or stiff, or numb; sometimes it becomes visibly red, swelled, or livid. The pain or uneasiness extends from the sore or scars towards the central parts of the body. Very soon after this renewal of local irritation—within a few hours, perhaps, but certainly within a very few days, during which the patient feels ill and uncomfortable—the specific constitutional symptoms begin. He is hurried and irritable; speaks of pain and stiffness, perhaps about his neck and throat; unexpectedly he finds himself unable to swallow fluids, and every attempt to do so brings on a paroxysm of choking and sobbing, of a very distressful kind to behold; and this continues for two or three days, till the patient dies exhausted. Generally, the disease when it once sets in, and shows the peculiar hydrophobic symptoms, runs but a short and fierce course. The nervous irritability becomes extreme. The peculiar paroxysms of choking spasm, and sobbing, are excited not only by attempts to swallow liquids, but by the very sight or sound of them. Even the passage of a gust of wind across the face, the waving of a polished surface, as of a mirror, before the eyes; the crawling of an insect over the skin is sufficient to excite irritation, and the peculiar strangling about the fauces, in a hydrcphobic patient. Death occasionally takes place within twenty-four hours after the commencement of the specific symptoms; but commonly it happens in the second or third day.

Sometimes, however, the patient may linger on until the seventh, or even eighth day, and the severity of the symptoms may so far remit as to allow of his swallowing liquids; but there is no well authenticated case of a recovery after this disease had decidedly manifested itself, although there is no lack of pretended remedies for hydrophobia.

It has been said that hydrophobia has resulted from the mere scratch of a cat; if so, the probability is that the creature's talons had become imbued with the venom when the paw was put to the

mouth, as it frequently would be if that part felt hot or uneasy. The knowledge that the saliva of a human being affected with this disease is infectious, should teach us, while ministering to such an unhappy fellow-creature, and relieving his sufferings by all means in our power, to do so with due caution; the more especially as such patients are sometimes extremely violent, and prone to bite as a dog would.

Treatment.—As no positive cure has been discovered for this terrible disease, all efforts must be merely preventive. Directly the bite has taken place, a free excision of the wound should be made, taking care that every part of flesh that the saliva has touched be removed; then thoroughly wash the wound with tepid water, keeping up this application for a considerable time. Some recommend stimulating dressings to the part, but the advisability of this is very questionable; better to let the wound heal than to keep the system in a state of irritation. If there is any doubt about the poison being all removed, a strong solution of lunar caustic should be applied, or the caustic itself; this is as likely to be as effective as the actual cautery, which some recommend. Youatt says he never saw the lunar caustic fail, and it may be used at any time before the disease manifests itself, although the longer it is delayed the less chance is there of success.

The alleviating measures to be resorted to when the disease has manifested itself, are—the application of ice to the spine and fauces; the inhalation of chloroform, and prussic acid dropped on the tongue a drop or two at the time; injecting into the bowels three or four ounces of starch jelly, with two or three grains of morphine; and rubbing in about every four hours a drachm of mercurial ointment, with two grains of powdered opium.

When, as is often the case, the patient is violent, he should be restrained by a straight waistcoat, or some such contrivance, from injuring himself and others. Cold affusion is a remedy always at hand, and one that has produced beneficial results; get some water at as low a temperature as possible, and pour it from a considerable height over the back of the head and along the upper part of the spine. This greatly reduces the action of the heart, and it is necessary to watch the pulse carefully during the process, and stop it as soon as it sinks in a dangerous degree. Sedatives and refrigerants must be mainly employed in these cases, as the patient is suffering under a violent excitement consequent on the introduction of a

poison into the system, which excitement, if not subdued, will inevitably and quickly exhaust the vital powers.

Does it follow, then, that all persons bitten by a rabid dog or other animal, must die? Is there no hope for them? Assuredly we would not promulgate such a doctrine as this. In the first place, a very small proportion of those who are so bitten have the disease at all; and this partial immunity has sufficed to establish a false reputation for many of the nostrums vaunted as infallible remedies. It has been calculated that the proportion of persons bitten who suffer is about one in twenty-five.

HYPOCHONDRIA.

A disease characterized by extreme sensibility of the nervous system, leading the patient to believe himself to be suffering from some terrible and imaginary disease, or to be much worse than he really is. The ideas of such persons often partake of the most extravagant character. He may fancy that he is immensely tall, or inordinately small; that he is heavy as lead, or light as a feather; that he is composed of glass, or is a lump of butter. They are all extremely timid, and their fears are exercised upon trifles, or are altogether groundless. They dwell constantly upon their own sufferings, and are usually morose, peevish, suspicious, and misanthropic; and frequently suspect their nearest and dearest friends of designs upon their life. There is frequently, also, functional derangement of certain organs, especially of those connected with the nutritive processes.

Causes.—The causes of this disease are various, arising, as it does usually, from an impaired condition of the nervous system. Habitual costiveness, excessive venereal indulgence, and masturbation, are also prolific sources of this disease. Young men of studious habits are very apt to suffer from this disease. Those too, who, from want of occupation and a due amount of exercise, acquire a luxurious habit, often fall a prey to it.

Treatment.—The cure must of necessity vary somewhat, according to the nature of the disease. In general, the great thing is to withdraw the patient's mind as much as possible from himself. For this purpose, cheerful society and change of scene should be adopted. The system ought to be strengthened by tonics, and exercise in the open air. If it arises from idleness and luxury, the great cure is

plenty of active exercise and a spare diet. In all cases the state of the digestive organs should be attended to, and the bowels kept in a strictly normal condition.

If there is costiveness, cracked wheat should be eaten, or if this does not answer, give the following:—

Pulverized Rhubarb,.....2 scruples.
Bicarbonate of Potassa,.....1 scruple.
Extract of Nux Vomica,.....5 grains.

Mix. Make into twenty pills. Dose, one pill twice a day. A teaspoonful of calcined magnesia, or an infusion of thoroughwort, drank cold, will often answer an excellent purpose.

DISEASES OF THE SPINAL CORD.

The spine is liable to many injuries. If it be broken or crushed at any part, all the nerves are immediately powerless below the injury; the sense of feeling and motion are stopped. If the cord is injured at its upper part, death at once ensues.

Concussion of the Spine

is sometimes a consequence of coming too suddenly and heavily on the feet, especially on the heels. It is followed by a want of nervous energy, and a depressed state of the system altogether; there is a loss of sensation and motion in the lower part of the body, and frequently inability to pass the urine, there being, in fact, partial or entire paralysis.

Sometimes there is acute pain in the lower limbs, and symptoms of active inflammation may set in, which will require leeching or cupping, with hot fomentations and the usual depletive measures. In such a case, pending the arrival of the medical man, little can be done beyond placing the patient in as easy a position as possible, and applying moist heat to the lower part of the spine; an active purgative may be administered, and a dozen leeches applied to the back, should it be long before the surgeon arrives, if the patient is of a full habit and in much pain. Should the shock be but slight, the effects will probably soon pass off; but it is necessary to be cautious, and avoid any violent exertion, especially such as jumping, for a time.

Often these cases are very tedious; the lost powers are recovered slowly, if at all. Friction with stimulating liniments, salt-water bathing, the douch bath, gentle exercise, and nourishing diet, are the means to be pursued. When there is displacement of the vertebræ, which can only be caused by extreme violence, and in which case there is also generally fracture of the bone, there must be injury of the spinal cord, and if at all high up, instant or speedy death is the result; if low down, permanent paralysis of the lower limbs most likely ensues. (For treatment, see *paralysis.*)

Apoplexy of the Spinal Chord

is not an unfrequent concomitant of epilepsy. With this we have convulsive twitchings, pain, and imperfect performance of the functions of motion and sensation. Soothing, palliative measures, are the only ones to be adopted in this case. Hot bran poultices, and opiates, if there is severe pain; but these should be cautiously given, and not carried to any great extent without professional advice.

Irritation of the Spine

is especially common in females, and often lies at the root of palpitations and the hysterical affections to which they are subject. In this case a tender spot, or more than one, may generally be found on examination somewhere in the course of the spinal cord. Simple pressure on one of these spots will sometimes suffice to bring on an attack of hysteria and fainting. Debility of constitution is likely to be the cause of this; therefore tonics and invigorating measures are called for. Iron and quinine should be taken, and general and local bathing resorted to, with friction down the spine with a coarse towel or flesh-brush; in some cases a small blister over the tender part is advisable.

INSANITY.

This is one of the most terrible disorders to which the human race is subject.

Causes.—The causes which may lead to insanity, particularly in those whose mental constitution is weak, are very numerous. In many cases, the tendency to insanity is hereditary, and transmitted from parents to children. One of the most fertile causes of insanity

in this country is drunkenness. Excessive study, strong mental excitement, grief, jealousy, disappointment, frequently also lead to it. Religious excitement is also not an unfrequent cause.

Symptoms.—Sometimes insanity comes on quite suddenly, without any warning whatever; at other times there is a previous derangement of the animal functions, loss of appetite, restlessness, and want of sleep. It is usual to distinguish insanity into different kinds, as,—

1. Moral Insanity,

in which there is a morbid perversion of the feelings, affections, and active powers, without any illusion or erroneous conviction impressed upon the understanding.

2. Intellectual Insanity,

affecting the reasoning powers, and which may be either general or partial,—the latter as in monomania.

3. Mania,

or raving madness, in which the mental faculties are notoriously impaired, the patient gives way to all sorts of extravagances, and, if not prevented, will do mischief to himself or others.

4. Dementia,

imbecility, fatuity, when the mental powers become gradually impaired, the sensibilities diminished, and the person at length becomes careless, or dead, to all that is going on around him.

Usually, however, two or more of these kinds occur together. Moral insanity frequently manifests itself in a desire to steal, or appropriate the property of others. In monomania, the patient reasons correctly upon all matters except one, which forms the subject of his insanity. Imbecility usually commences with loss of memory and the power of concentrating the attention, for any time, upon one subject; then all control is lost over the thoughts, and the mind wanders meaninglessly from one subject to another; at length there is a carelessness to all that is going on around, and life may become a mere existence, the mental faculties being entirely lost. Idiotcy differs from imbecility in being congenital, while the latter is acquired, or produced by disease. Idiotcy may be produced by

various causes connected with the parents; as intermarriages of near relatives, intemperance, scrofulous habits, some powerful influence acting on the mother during pregnancy. Idiots present every degree of mental imbecility, down to the lowest shade, without sense sufficient to satisfy the mere wants of nature. The head of the idiot is usually very small, particularly in the regions of the forehead; in some cases, however, it may be quite natural, and in others large and misshapen. The beneficial effects of attention to the physical health, and of education, are manifested even in the case of idiots.

Treatment.—The chances of recovery depend greatly on the complication, or otherwise, of insanity with other diseases, particularly epilepsy or paralysis, with either of which it is nearly hopeless. It is also influenced by the form of the disease, the period of its duration, the age, sex, and constitution of the patient. The mean duration of cases terminating favorably is from five to ten months; after the latter period recovery is very doubtful. In advanced life, insanity is generally permanent, and imbecility is very rarely curable. While insanity may arise from some affection of the brain which speedily terminates in death; yet, in general, it is not necessarily a fatal disorder, for lunatics have been known to live thirty, forty, or fifty years, after being seized with their disease. It is one of the signs of the advance of the present age that the treatment of the insane is no longer what it was; they are no longer loaded with chains and confined to some dungeon, but are treated with kindness and consideration, and allowed all the liberty that the nature of their malady admits of. In the cure of insanity, in which great progress has recently been made, the means adopted naturally resolve themselves into medical and moral. When the malady proceeds from, or is accompanied by, physical derangement, as it usually is, it is necessary to ascertain the nature of this, and to take means for its removal. If there be excitement and inflammatory action, mild antiphlogistic measures will be necessary, together with aperients and a low diet. If, on the contrary, there is debility and prostration of strength, a nourishing diet will be required. When, as is often the case, want of sleep is an attendant symptom, opiates are to be given. In all cases, exercise, fresh air, and cleanliness are required. The moral treatment of the insane consists in diverting their thoughts by occupations and amusements, and in gaining their confidence by kind and conciliatory measures.

LOCKJAW. (*Tetanus.*)

This is a spasmodic seizure of a dreadful and generally fatal character. By this disease, not only are the muscles of the jaws, but those also of the whole body, thrown more or less into spasm, often so violent as to break the teeth or bones.

Causes.—The cause of tetanus is frequent exposure to cold and damp, or it may be some local injury, such as a cut, puncture, or laceration. It more commonly results from either of these in warm climates, although intense cold alone has not unfrequently produced it. It often affects a large number of the wounded on a field of battle, who are exposed to the vicissitudes of the weather. Lock-jaw, which is produced by a wound, will sometimes show itself in four days; sometimes not for two or three weeks after the wound has been received.

Symptoms.—The most common form of this fearful malady is that in which the muscles of the neck and throat are chiefly affected. It generally comes on in a gradual manner: there is slight stiffness in the back of the neck, which extends to the root of the tongue, causing great difficulty in swallowing; then the whole muscles of the face probably become implicated; there is soon tightness of the chest, and the spasmodic pain extends to the back; while the teeth become so closely and firmly set together that no food of any kind can pass them. If the spasm extends further than this, the muscles of the trunk, and, lastly, of the extremities, become involved, contracting and drawing the body to the side, or backward, as the case may be, so as to form an arch, resting on the head and heels. The suffering caused by the tetanic spasm is frightful to contemplate. The face is pale, the bones contracted, the skin covering the forehead wrinkled, the eyes fixed and prominent, sometimes suffused with tears, the nostrils dilated, the corners of the mouth drawn in, the teeth expanded, and the features fixed in a sort of grin. The breathing is performed with difficulty and anguish; there is great thirst, and the sufferings are greatly increased by attempts to swallow; the pulse is feeble and frequent; the skin is covered with perspiration; and yet, with all this torture, the intellect remains clear and unaffected. Death at length closes the scene, being due partly to suffocation and partly to exhaustion.

Treatment.—The common treatment for it is the warm bath, or, if this cannot be had, enveloping the whole body in a blanket wrung

out of hot water; the administration of enemas, consisting of thin gruel, with an ounce each of castor oil and turpentine. If the patient can swallow, give large doses of opium in the liquid form, say from thirty to sixty drops of laudanum every half hour, until it manifestly affects the system. Cold water, poured on the head from a considerable height, may also be of service; and friction with a stimulant liniment, such as turpentine and opodeldock, down the course of the spine. Inhaling ether or chloroform is also very beneficial.

NEURALGIA.

A painful affection of the nerves. When it occurs in those of the face, it is termed face-ague or tic-doloreux; when it affects the great nerve of the leg, it is called sciatica. Other parts, such as the fingers, the chest, the abdomen, &c., are also liable to this agonizing pain,—one of the most severe and wearing to which the human frame is liable. The exact nature of it is not very clear; that is to say, the origin of the disease, for although its immediate seat is a nerve, or set of nerves, yet there must be some originating cause. It can frequently be traced to some decay, or diseased growth of the bone about those parts through which the nerves pass; and, in some severe cases, it has been found to depend upon the irritation caused by foreign bodies acting upon those highly sensitive organs.

Causes.—Among its exciting causes we may mention exposure to damp and cold, especially if combined with malaria; and to these influences a person with a debilitated constitution will be more subject than another. Anxiety of mind will sometimes bring it on, and so will a disordered state of the stomach; more particularly, a state in which there is too much acid. Tea, coffee, tobacco, and opium are prolific causes of neuralgia, as well as other diseased conditions of the nerves. They should be discontinued, and immediate benefit will ensue.

Symptoms.—A violent, darting, and plunging pain, which comes on in paroxysms. Except in very severe and protracted cases, there is no outward redness nor swelling to mark the seat of the pain, neither is there usually constitutional derangement, other than that which may be caused by want of rest, and the extreme agony of the suffering while it lasts, which may be from one to two or three hours, or even more, but it is not commonly so long. Tenderness and swell-

ing of the part sometimes occurs, where there has been a frequent recurrence and long continuance of the pain, which leaves the patient, in most cases, as suddenly as it comes on. Its periodic returns and remissions, and absence of inflammatory symptoms, are distinctive marks of the disease.

Treatment.—This must depend upon the cause. If it is a decayed tooth, which, by its exposure of the nerve to the action of the atmosphere, sets up this pain, it should be at once removed, as there will be little peace for the patient until it is. If co-existent with neuralgia there is a disordered stomach, suspicion should at once point thereto, and efforts should be made to correct the disorder there. If the patient is living in a moist, low situation, he should at once be removed to a higher level, and a dry gravelly soil. Tonics, such as quinine and iron, should be given, and a tolerably generous diet, but without excess of any kind. In facial neuralgia, blisters behind the ears or at the back of the neck, have been found serviceable; and, if the course of the nerve which appears to be the seat of mischief, can be traced, a belladonna plaster, or a piece of rag soaked in laudanum and laid along it, will sometimes give relief; so will hot fomentations of poppies and camomiles, or bran poultices sprinkled with turpentine. In very severe cases, one quarter of a grain of morphine may be given to deaden the nervous sensibility, and induce sleep, which the patient is often deprived of at night, the pain coming on as soon as he gets warm in bed.

An application of chloroform on lint has sometimes proved very effectual in relieving severe neuralgic pains, and so has an ointment composed of lard and veratrea, in the proportion of six grains to one of lard.

A mixture of chloroform and aconite has been recommened for facial neuralgia, the form of preparation being two parts of spirits of wine, or eau de cologne, one of chloroform, and one of tincture of aconite, to be applied to the gums of the side affected, by means of a finger covered with a piece of lint, or soft linen, and rubbed along them,—the danger of dropping any into the mouth being thus avoided. When the pain is connected with some organic disease, as a decayed tooth, or chronic inflammation of the gums, or of the sockets, or superficial necrosis of the bone, substitute tincture of iodine for the spirit in the above formula.

We would caution our readers strongly against the careless inhalation of chloroform, as a remedy for neuralgia, which appears to be

growing into a general practice. Several deaths have resulted from it, the practice being to pour a little on a pocket-handkerchief, without much regard to quantity, and hold it to the mouth until the required insensibility is produced. This remedy should never be administered except under the supervision of the medical adviser.

The shower-bath, plenty of exercise in the open air, and attention to whatever will build up the general health, must be carefully attended to.

Persons at all liable to this painful affection should be extremely careful not to expose themselves to wet or cold; above all, not to sit in draughts. A very slight cause will often bring it on, where there is the least tendency to it.

One severe and troublesome form of neuralgia is ear-ache. It often occurs in children at the time of dentition. It may be distinguished from that of an inflammatory character, resulting from the formation of an abscess, by the symptoms above described.

ST. VITUS'S DANCE (*Chorea*).

This disease is more common in females than in males, and usually occurs in children from eight to fourteen years of age.

Causes.—The predisposing cause of this disease is undoubtedly debility, generally dependent upon too rapid growth. The approach of puberty has been considered a predisposing cause of chorea; and so far as the changes then effected are causes of general weakness, the idea may be correct, but their farther influence may well be doubted. In boys, however, sexual excitement, and particularly certain criminal indulgences, not uncommon at this age, should be suspected, when symptoms of chorea begin to manifest themselves. The too frequent use of vegetables, and the presence of worms, are also regarded as common causes.

Symptoms.—The precursive symptoms are variable appetite, sometimes ravenous and sometimes wanting, a degree of listlessness and inactivity, a swelling and hardness of the belly, usually accompanied with constipation, and slight, irregular convulsive motions of the muscles of the face. As the disease advances, the muscles of the extremities, of the lower jaw, the head, and the trunk, are in various degrees affected. In this state the patient is unable to walk steadily, his only movement being a kind of jumping or springing; or, perhaps, he is compelled to run in order to make any progress. To

whatever set of muscles it is attempted to communicate motion, these immediately become affected with the diseased action, and either refuse to obey the will, or obey it imperfectly, and by jerks in uncertain directions. Even if speech be attempted, articulation is found impossible, or the words are uttered with embarrassment and difficulty. In the progress of the disease, the eye loses its brightness and intelligence, and the countenance becomes pale and vacant. In some cases actual loss of mental power seems to follow.

The whole muscular system is never simultaneously affected; and, in some instances, the perfect control which is retained over a part, compared with the mutinous state of the remainder, is very remarkable. Sometimes, though the gesticulations are most absurd, the speech is easy and fluent; and sometimes, when unable to walk with any approach to regularity, the patient can sing and play with the most perfect correctness.

Treatment.—The treatment of chorea, in its advanced stages, is entirely beyond the reach of the domestic practitioner; and all that he can properly attempt, even at the outset, is to remove all the remote causes of the disease above enumerated; to establish a regular system of light, but nutritious diet; to administer some of the milder vegetable tonic teas, and leave the rest to nature and fresh air.

Herbal, or Eclectic Treatment.

Cleanse the stomach. For an adult, give an emetic, as follows:—

Pulverized Ipecac,.....10 grains.
Tartar Emetic,.....3 grains.

Mix in nine teaspoonfuls of warm water. Dose, three tablespoonfuls at first, and then one tablespoonful, every fifteen minutes, till vomiting ensues. The next day give the following aperient:—

Calomel, ...15 grains.
Pulverized Rhubarb,.....10 grains.
Aloes,.....10 grains.

Mix. Divide into six pills. Dose, two every two hours, working them off with gruel, with salt in it. A complete cure has been effected by giving two drachms of carbonate of iron in molasses every six hours. To allay the nervous irritation, give Indian hemp-root tea. An occasional tepid foot-bath will be found useful.

PALSY (*Paralysis*).

The total loss or diminution of motion, or sensation, or both, in any part. There are several kinds of palsy or paralysis, such as the *paralysis agitans;* the shaking, or as it is sometimes called, from the peculiarity of the patient's gait, the dancing palsy; *hemiplegia*, when one side of the body only is smitten; and *paraphlegia*, when it is the lower half which is more or less deprived of its nervous power; but in all cases it is the brain which is the seat of disorder; and if this is confined to one of its hemispheres, the attack, if it does not include both sides, is most likely to fall on the opposite side of the body.

Causes.—The rupture of a vessel of the brain is one of the most common causes of paralysis, and this may occur without there being any decided apoplectic symptoms. A slight transient faintness, and confusion of ideas, may precede the attack, or it may come on during sleep, so that the patient may only be made aware that he is paralyzed by his inability to speak plainly, or to move a limb, or one side of his body. Sometimes the attack is gradual, and occupies a considerable time,—days, weeks, and even months elapse before the loss of nervous energy becomes complete; and this helplessness may be produced by a succession of slight shocks, as it were, or by the gradual stealing on of an apparently torpid condition. This latter is more commonly the case when the disease arises from a decided state of general debility, which in time involves the brain, until the structure gives way, and softening is the consequence. Literary men, and all who have much head-work, are especially liable to that condition of the brain which causes paralysis; and so are hard drinkers, and others whose lives or habits necessitate a frequent state of cerebral excitement. With such the progress of the disease is probably rapid. If of full habit, they will, it is likely, die quickly of apoplexy; if of spare, they will sink into a state of mental and bodily imbecility. In either case they may be subject to epileptic fits.

One of the chief causes is pressure upon or disease of the brain or spinal cord. When confined to the lower part of the body, there may be reason to believe that the defect of power is in some cases but functional. In this case the cause may be long exposure of the lower limbs to wet and cold, self abuse, excessive indulgence in venery, inflammation of the bowels or kidneys, effusion in the spinal

cord from a blow, a burn, or other injury; disease of the womb, or of the urethra, may also give rise to it. Palsy of either of the limbs may be caused by pressure, and general palsy by the action of lead, or mercury upon the system; therefore those who work in these metals are peculiarly liable to be so affected, such as button-gilders, glass silverers, plumbers, &c. The most dangerous form of this kind is when it affects the muscles of respiration, in which case it rapidly proves fatal. The excessive use of tea or coffee will often lead to it.

Symptoms.—Among the premonitory symptoms of paralysis may be named headache, confusion of ideas, loss of memory, impaired vision, drowsiness, and partial stupor, with, frequently, numbness and pricking or tingling sensation in the limb or part about to be attacked. With persons of a full habit, there will be heat and flushings in the face, and most of the signs of an approaching fit of apoplexy; then follows indistinct articulation, loss of power, and the other marked and unmistakable indications of an actual attack.

Treatment.—The proper treatment, in the case of a patient of a full habit, will be bleeding and cupping in the neck, and strong purgatives,—about five grains of calomel, followed by senna mixture, or croton-oil pills, every four hours, until they operate freely. When there is faintness and confusion of intellect, give a teaspoonful of sal volatile in a glass of water, and repeat it in an hour if required; no alcoholic stimulant should be administered; put the feet and legs in a hot mustard bath, and place the patient in a warm bed, with the head and shoulders well raised. Follow up the cupping in the neck with a blister, and after that, put in a seton, if required. After they have once acted well, keep the bowels gently open with rhubarb or castor oil; let the diet be spare, and the quietude of the patient as perfect as possible. After the acute stage of the disease has passed, local stimulants should be used, and the affected parts well rubbed with the hand or a flesh-brush. Electricity and galvanism may also be employed, where there is no reason to suspect structural disorganization. In paraphlegia it is often very difficult to get the bladder to act; and when it does, the urine flows from it involuntarily. Great attention should be paid to this, and stimulant diuretics given: the tincture of cantharides, in half-drachm doses, is, perhaps, the best.

In some cases, much relief has been afforded by the use of sulphur

baths and chalybeate waters. Mercury, which is strongly recommended by some, is but a doubtful remedy. Strychnia has proved serviceable, but should only be given under medical superintendence. Repeated moxæ along the course of the spine, and small blisters on the insides of the legs and thighs, are highly recommended.

In palsy of the face, if it is caused by a blow, a few leeches behind the ear, and at the angle of the jaw, may prove beneficial. If cold is the cause, hot fomentations and stimulating liniments should be applied; as also in palsy of the hands, fingers, or other extremities, with electro-magnetism, persevered in for a considerable time. In all cases of chronic paralysis, it should be borne in mind that the nervous system requires arousing and stimulating to a due performance of the functions necessary to life. In nearly all there is a sluggish action of the bowels, which are often obstinately constipated, and require the strongest purgatives to keep them at all open. It is sometimes better to employ enemas, than continue giving drastic medicines. The paralytic patient frequently enjoys pretty good general health, and eats largely; and this increases the above difficulty, especially if it be a heavy person, with little power of self-movement. When confined entirely to bed, sores and sloughing ulcers are not uncommon: these should be treated as directed under the head *Bed-sores*. An air or water bed greatly obviates the danger of them.

Herbal, or Eclectic Treatment.

If the patient be young and of full habit, bleed freely, and use a large blister on the back of the neck; but if the patient is old, a different treatment must be adopted. Give stimulants freely. Place the patient in a warm bath, and give a tablespoonful of scraped horseradish, or the same of mustard-seed, four or five times a day. Rub the whole body with flannels, impregnated with tincture of cayenne pepper, oil of sassafras, oil of turpentine, or the tincture of cantharides. Spirits of turpentine, about twenty drops in a little water, three times a day, has been found very successful.

If great sleeplessness or pain exist, give a little opium; and for a laxative, give a teaspoonful of tincture of golden seal, two or three times a day, till the bowels open. Flannel should always be worn next the skin.

THE EYE.

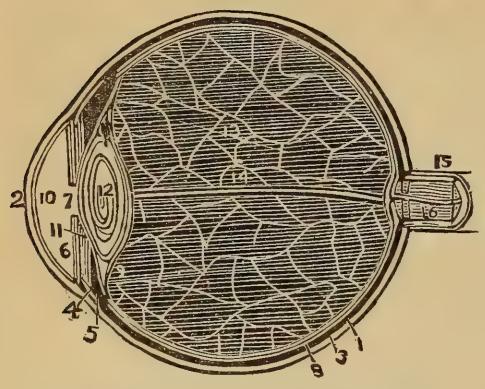
ANATOMY AND FUNCTIONS.

Few persons are aware how marvellously beautiful and complex a structure is the organ of vision; and it is somewhat difficult, within the limited space which we can give to the subject, for us to explain its various peculiarities of structure, so fully and clearly as that our readers may have a correct understanding thereof. Volumes have been devoted to a subject which we must compress into a few pages; and therefore, without pausing to speak of the many poetical things which have been said of the Eye, such as its being "the window of the soul," "the light of the body," "the queen of the senses," and so forth, we will at once proceed to our attempted description, in which we shall be greatly assisted by the excellent diagrams with which our artist has furnished us.

We will speak first of the Eyeball, the optical instrument, independent of the muscles by which its various movements, and those of the lids, are affected; of the bony cavity, or orbit in which it is lodged and protected; and of the lachrymal apparatus by which it is provided with the fluids necessary for its lubrication.

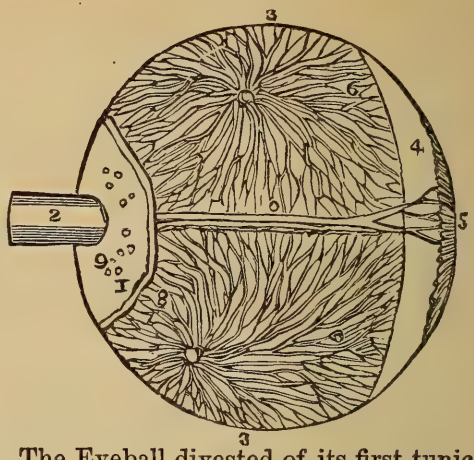
The Eyeball, then, is a hollow globe, or small spherical chamber, about one inch in diameter, having the segment of a smaller sphere engrafted on its front surface. This is what we see projecting like a bow window, as it were, when we take a side view of the face. It is, in fact, the window of the chamber, and through it pass the rays of light which paint pictures on the retina within, of outward scenes and objects. In Fig. 22 this projection is very distinctly marked, giving to the sphere a frontal elongation. This globe is composed of investing tunics, three in number, and of refracting media, called humors, of which there are also three. The lines encircling this globe represent the tunics by which the humors are kept in their proper place.

Fig. 22.



Longitudinal Section of the Globe of the Eye.

Fig. 23.



The Eyeball divested of its first tunic.

1 marks the course of the outer tunic, called the sclerctic, which invests four-fifths of the globe, and gives it its peculiar form. It is a dense fibrous membrane, thicker behind than in front, where it presents a bevelled edge, into which fits like a watch-glass the *cornea* (2), which invests the projecting portion of the globe, and is composed of four layers, viz., the *conjunctiva*, or *cornea propria*, consisting of thin lamellæ, or scales, connected by an extremely fine areolar tissue; the *cornea elastica*—an elastic and excessively transparent membrane, which lines the inner surface of the last; and the *lining membrane* of this front vestibule of the Eyeball, whose second tunic is formed by the *choroid* (3), represented by the dark line; the *ciliary ligament* (4), which developes from its inner surface the *ciliary processes*, and the *iris* (6), of which the opening at 7 represents the *pupil*. We shall go more into details presently as to the nature of these several constituents of the tunics and other parts of the Eye; at present we will keep to general outlines, as represented in the diagram. The third tunic, then, is the *retina* (8), which is carried forward to the *lens* (12), by the *zonula ciliaris*, a prolongation of its vascular layers passing along the front of the *Canal of Petit* (9), which entirely surrounds the lens. In the space marked 10, is contained the *aqueous humor;* 11 is the *posterior chamber;* 12 the *lens*, more convex behind than before, and enclosed in its proper capsule; 13 marks the inner area of the globe, filled with a thin membrane called the *hyaloid*, and containing the vitreous humor; 14 is the tubular sheath of the membrane, through which passes an artery connected with the capsule of the lens, and, at the back of the eye, with the optic nerve, as represented at 16. Of this nerve, 15 marks the *neurileuma*, or sheath.

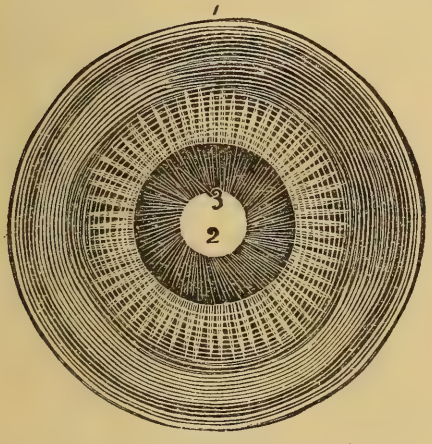
1, part of the outer tunic, the sclerotic; 2, the optic nerve, communicating with the ball at the back; 3 3, distinguish the outline of the choroid coat; 4, the ciliary ligament, a dense white structure which surrounds, like a broad ring, the circumference of the iris (5). This ligament serves as a bond of union between the external and middle tunics of the Eyeball, and serves to connect the cornea and sclerotica at their lines of junction with the iris and external layer of the choroid; 6 6, mark the *venæ vorticosæ;* and 7 7, the trunks of these veins at the point where they have pierced the sclerotica; 8 8, the posterior ciliary veins, which enter the Eyeball in company with the posterior ciliary arteries, by piercing the sclerotica at 9. The course of one of the long ciliary nerves, accompanied by a vein, is marked by 10.

We will now proceed more into detail, in explanation of Fig. 23, which represents the Eyeball divested of its first tunic, so as to exhibit the second, with the beautiful distribution of the veins of the choroid, called venæ vorticosæ, from the peculiar manner of their arrangement. This is the external layer of the choroid, which is

connected with the ciliary ligament. Next to it comes the middle or arterial layer, composed chiefly of the ramifications of minute arteries. It is called the tunica Ruyschiana, and is reflected towards its junction with the ciliary ligament, where it forms what are called the ciliary processes already spoken of. The internal layer of this tunic is called the membrano pigmenti, which is composed of several laminæ of minute six-sided cells, which are arranged like a tessellated pavement, and contain granules of pigmentum nigra, or black paint; this is not, however, quite black, but of a deep chocolate color. In Fig. 22 we see it in the dark line which encircles the globe, and thickens considerably towards the front.

Our next diagram (Fig. 24) represents a front segment of a transverse section of the Globe of the Eye, and again exhibits that beautiful arrangement of parts for which this organ is so remarkable:

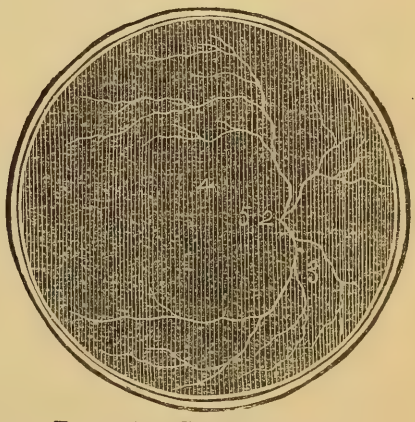
FIG. 24.



Transverse Section of the Globe of the Eye.

1, the divided edges of the three tissues, the *sclerotic* (outer), *choroid* (middle and dark), and *retina* (inner), which last is composed of three membraneous layers, the external being serous, the middle nervous, and the internal vascular; 2, the *pupil*, that central spot, which enlarges or contracts, according as more or less light is required to be admitted; 3, the *iris*, so called from iris, a rainbow, on account of its variety of color in different individuals. It is composed of an anterior muscular layer, consisting of radiating fibres, which, converging from the centre toward the circumference, have the power of dilating the pupil; and also of circular fibres, which, surrounding the pupil like a sphincter performs the duty of contracting its area. The posterior, or hinder layer, is of a deep purple tint, and is hence named *uvea*, from its resemblance to a ripe grape. This is the surface of the iris presented to view in the above section. 4, ciliary processes; 5, scalloped anterior border of the retina.

FIG. 25.



Posterior Segment of a Transverse Section of the Eye.

1, the three outer tunics; 2, the entrance of the optic nerve, with the vein known as the *anteria centralis retinæ* piercing its centre; 4 is the *foramen of Soemmering*, situated in the middle of the axis of the eye. This is a circular spot, surrounded by a yellow halo, called the *limbus luteus*. This halo is commonly obscured by a fold of the retina (5).

We have hitherto been looking upon this wondrous little globe from without. Let us now take a view of it from within, as represented in Fig. 25. This is a posterior segment of a transverse section of the ball. Here again we see, of course, only the divided edges of the tunics on the three outer rings from which extends the membrane covering the whole internal surface of the retina. The foramen, which signifies an epening, has been found to exist only in animals which have the axes of the eyeballs parallel with each other, as man, the quadrumania, and some saurian reptiles. It is thought to give passage to a lymphatic vessel.

We have as yet said little of the Lens, or crystalline humor, marked 12 in Fig. 22. It is situated immediately behind the pupils, and surrounded by the ciliary processes which overlap its margin. It is less convex on the front than on the hinder surface, and is invested by a peculiarly transparent and elastic membrane called the Capsule, which contains a small quantity of fluid called the Liquor Morgani, and is retained in its place by its attachment to the zonula ciliaris, already described as a prolongation of the vascular layer of the retina.

The lens consists of concentric layers formed upon a hard, firm nucleus, and becoming softer as they tend to the outer surface. These concentric lamellæ are composed of minute parallel fibres united with each other by means of scalloped borders, the convexity of one body fitting into the concavity of the other.

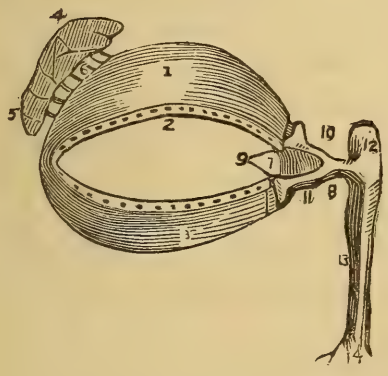
Before leaving this part of our subject, we will give a brief summary of the *uses* of the several parts which we have been endeavoring to describe. The first tissue, the sclerotic, is simply one of protection; the cornea is a medium for the transmission of light; the choroid supports the vessels, such as veins and arteries, by which the eye receives nutriment; and also, by its inner layer of pigmentum nigrum, absorbs all scattered rays, by which an image impressed on the retina might be confused. The iris, by its power of expansion and contraction, regulates the quantity of light admitted through the pupil. If it be thin, and the rays pass through its substance they are absorbed by the uvea; and if the power of that layer be insufficient, they are taken up by the black pigment of the ciliary processes. Where, as in Albinos, there is an absence of the pigmentum nigrum, the rays of light traverse the iris and even the sclerotic, and so flood the eye with light that the sight is destroyed, except during the dimness of evening. Opticians are well aware of the

absorbing power of dark colors, and take care to have a black lining to their instruments; but what man ever made an instrument like the eye, with its transparent laminated cornea, and various humors, so constituted and arranged that they refract the rays in such proportion as to produce a perfect image upon the retina, and convey such exact and vivid pictures of outward objects to the mind within, that sits enthroned, who shall say where?

When the body of the refracting medium is too great, owing to over-convexity of the cornea and lens, the image falls short of the retina, unless the object be brought very close,—this is near sight. When there is an opposite condition of things, so that the image is thrown beyond the nervous membrane, we have what is called far-sight.

Of the various nerves, veins, and arteries, which traverse the eye, we need not attempt a description. To some of the principal of

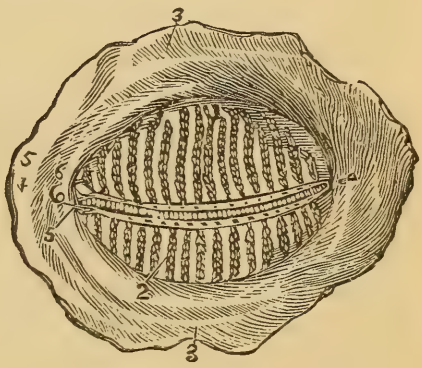
Fig. 26.



Eye-Appendages.

1, the *superior* or upper *tarsal cartilage*, along the lower border of which (2) are seen the openings of the *Meibomian glands;* 3, the *inferior*, or lower, *tarsal cartilage*, along the upper edges of which are also openings of the above-named glands; 4, the superior or orbital portion of the *Lachrymal gland*, from which come tears; 5, its inferior or palpebral portion; 6, the *Lachrymal ducts*, or channels through which the tears pass to the outer surface of the eye; 7, the *Plica semilunaris*, containing a small plate of cartilage, which appears to be the rudiment of a third lid, such as is developed in some animals; 8, the *Caruncula lachrymalis*, the source of the whitish secretion which so constantly collects in the corner of the eye; it is covered with minute hairs, which can sometimes be seen without the aid of a microscope; 9, the *Puncta lachrymalis*, the point, or external commencement of the ducts, which terminate at the *lachrymal sac*, the position of which is marked by 12; as are the *superior* and *inferior lachrymal canals* by 10 and 11. The *nasal duct*, marked by 15, and 14 is its dilation with the lower meatus of the nose.

Fig. 27.



Meibomian Glands.

1 2, the inner sides of the eyelids; 3 3, the *Conjunctiva;* 4, the apertures of the glands, along each corner of the lids; 5 5, 6 6, the *Papillæ lachrymales* and the *Puncta lachrymalia*; 7, the apertures of the ducts of the *Lachrymal gland.*

them allusion has already been made; but to the *appendages* we must devote a little space. These are, first, the Eyebrows (*supercilia*), two prominent arches of integument, covered more or less with thick short hairs, and forming the upper boundary of the orbits. Their obvious utility is to shade the eyes from too vivid a light, and to protect them from particles of dust and moisture from the forehead. Second, the Eyelids (*palpebrae*), which have been well called the Curtains of the Eyes; when drawn open, they leave an elliptical space sufficiently large for the purposes of sight, and when closed, as in sleep, they effectually defend the delicate organs which they cover from injury. If we inquire into the structure of these two valvular Eye-curtains, we find that they consist of integuments, muscles, cartilages, glands, and the mucous membrane called conjunctiva, which covers the whole of the anterior surface of the eye, and is reflected back so as to form the internal layer of the lids.

On examining the inner aspect of the Eyelids, the Meibomian Glands can be distinctly seen, arranged like strings of pearls, about thirty, on the cartilage of the upper lid, and somewhat fewer in the lower, where also they are shorter than those above, as they correspond in length with the breadth of the cartilage. Each of these glands consists of a single lengthened follicle, or tube, into which a great number of small clustered glandular vesicles open; and from these tubes the secretion is poured out upon the margins of the lids, which, being thus kept constantly moist inside, are in a condition to lubricate and wash the surface of the cornea, which they do in the motion of winking.

The Eyelashes (*cilia*) have now to be mentioned. They, too, are important organs of defence for the delicate surface of the eye, for whose curtains they form, as it were, a silken fringe.

The Diseases of the Eye.

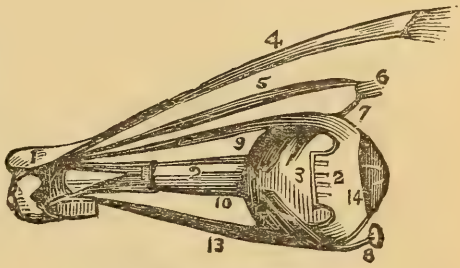
The diseases of the eye are numerous, and sometimes very difficult of treatment, owing to the extreme susceptibility and delicacy of texture of the parts involved.

This wondrous globe that we have been attempting to describe, lies within its bony socket, or conical-shaped orbit, whose projecting edges, especially that above, whose line is marked by the Eyebrow, protect it from injury. Besides being, as it were, embedded in fat, it is slung or suspended on a kind of membrane, and its va-

rious movements are effected by means of seven muscles, called *Recti* muscles,—the position and office of which will be best understood by a reference to Fig. 27, which represents the Eyeball with its muscular appendages, as viewed from the outer side of the right orbit.

It must be evident that we cannot give a specific account, with directions for treatment, of all the forms and manifestations of eye disease, nor is it necessary. A few only of them, such as are most prevalent, and open to domestic treatment, need be touched upon.

FIG. 28.



Muscles of the Eye.

1, Sphenoid Bone; 2, the Optic Nerve; 3, the Globe of the Eye; 4, the Upper Muscle, called the *Levator Palpebræ*, the Lifter of the Eyelids; 5, the *Superior Oblique*, so called from the direction in which it draws the Eyeball; we see its cartilaginous pulley (6), and the reflected portion passing downward to its point of connection with the ball, beyond which the *Inferior Oblique* has its bony origin,—the point of which is marked by the little square knob. The other four muscles are called *Recti*, straight; the *Superior Rectus*, sometimes called the *Levator Oculi*, erector of the eyes, and sometimes *Superbus*, because its action gives an expression of pride; its opposite, 13, the *Inferior Rectus*, sometimes called *Deprimus oculi*, depressor of the eye, and *Humulis*, as giving an expression of humility; 10, the *Rectus Internus*, sometimes called *Adductor Oculi*, from its drawing the Eyeball toward the nose, and *Bibitorious*, a sort of punning name, in allusion to the cup, or orbit, towards which it directs the glance; 11 and 12, *Rectus Externus*, the one showing its two heads of origin, and the other its termination; the intervening portion of muscle [having been removed] has the name of *Abductor Oculi*, because it turns the ball outwards; *Indignabundus* is another name for it, as giving an expression of scorn. In our diagram, the internal rectus passes behind the optic nerve, which partly conceals it; 14, the *tunica albigania*, or white tunic, formed by the expansion of the tendons of the four *Recti muscles*.

Inflammation of the Eye (*Opthalmia*).

The Eyeball itself is liable to be affected by Acute, Chronic, Purulent, and Strumous Opthalmia, the first of which is confined to the conjunctiva, or outer covering of the front of the eye.

SYMPTOMS.—Its chief symptoms are a smarting sensation, and a feeling like that caused by the presence of dust. There is also considerable stiffness, and the whites become tinged with red, owing to the veins being suffused. On a close examination, the red vessels may be distinctly traced; and it may be observed that they move with the surface, showing that the inflammation is but superficial.

Treatment.—Warm bathing of the eye, combined with brisk purgatives, should first be tried; mercury may be taken in a mild form, as in the grey powder, and com-

bined with rhubarb, say three grains of the former and eight or ten of the latter, every other night; the diet should be low, and light excluded as much as possible from the inflamed organ. Should the warm bathing not produce a good effect, in a couple of days or so, use the following lotion:—

Wine of Opium,	1 drachm.
Sulphate of Zinc,	8 grains.
Acetate of Lead,	16 grains.
Rose. or plain Distilled Water,	8 ounces.

Dip a piece of linen in this lotion, and bind it, not too tightly, over the eye, letting part of the fold hang down so as to cover it well. Keep this moistened. Should it be necessary to resort to other measures, drop into the eye, from a quill, or small glass tube, a solution of nitrate of silver, the strength about four grains to the ounce of distilled water. two or three drops three times a day, and apply leeches.

When this disease continues long, the inflammation extends deeper, and it becomes chronic, which has all the symptoms of the acute form of disease. except the feeling as of dust in the eyes. The latter of the above measures will generally reduce it, or, should not the nitrate of silver drops succeed, use wine of opium alone in the same way and a lotion made with green tea and about one-sixth of its bulk of brandy. or other strong spirit. If, in spite of these remedies, the veins of the lids begin to swell on the outside, showing that the inflammation is spreading, blisters should be applied behind the ears. and the system yet more reduced if it safely can. In this case there is a plan of treatment. which generally succeeds in giving relief and it is really not so dangerous and formidable as it may seem.

Let the lid of the affected eye be carefully closed; damp the outside with a sponge; then draw a stick of lunar caustic (nitrate of silver) gently and evenly across the moist surface in successive lines, taking care not to go over the same part twice. Suffer the application to dry without opening the lid, which in a few hours will begin to swell, and soon attain such a size as to cause total blindness. This may continue perhaps for a day or two, the cauterized surface during the time discharging a large quantity of serum. The swelling will then gradually subside, and, in a few days more, with the

help of a dressing of simple ointment, the skin will have resumed its ordinary appearance, and all symptoms of inflammation will probably be gone.

Purulent Opthalmia (*Egyptian Opthalmia*).

In this, all the symptoms of the acute or chronic form are greatly aggravated. The conjunctiva is red and swollen, rising up like a wall round the cornea; the eyelids are tense, livid, and often enormously swollen; a copious secretion of muco-purulent matter is poured out, and there is a burning pain in the eye, with inability to bear the light. It requires prompt and decided treatment, as there is always great risk of permanent injury to the eye, from its tendency to produce thickening and granulation of the conjunctiva of the lids, or ulceration and sloughing. In the severer forms of the disease recourse must be had to bleeding, either general or by means of cupping-glasses or leeches, and purgatives, and the various other antiphlogistic means employed. The eye should be frequently cleansed with warm water, or a weak warm solution of alum or bichloride of mercury, and one or two drops of a weak solution of lunar caustic (from two to four grains to an ounce of water) should be let fall into the eyes once or twice a day.

Strumous, or Scrofulous Opthalmia.

The strumous form of opthalmia is occasionally met with in persons of all ages, but it more especially attacks weakly and scrofulous children who are under eight or ten years of age.

Symptoms.—A peculiar intolerance of light is one of its most marked symptoms. A spasmodic closure of the lids takes place whenever much light is presented to the eye. On forcing them open, the conjunctiva will generally be found universally inflamed, but sometimes only partially so; but that which especially distinguishes this form of opthalmic disease is the presence of—it may be one, or two, or several—little bright red pustules, each terminating a vein of the same color, and the parts on which they exist are the most inflamed.

Treatment.—Local applications will do little or nothing for the cure of this disease. The treatment must be general and generous. The cause is usually obstructed or unhealthy secretions, and if these are rectified the effect will soon disappear. Attention must be first

paid to the state of the liver and kidneys. If these are deficient in action—if there is anything wrong with the bile or the urine—administer the appropriate remedies. After this, administer tonics in combination with sedatives—say quinine and digitalis; or, if this affects the action of the heart too much—hemlock. They may be given in the form of pills, one grain of the first and one-third of a grain of the second or third, three times a day. With some constitutions, the iodide of potassium acts best; therefore, if the above does not succeed, take the following:—

Iodide of Potassium,.....2 scruples.
Compound Essence of Sarsaparilla,.....4 drachms.
Tincture of Digitalis, or Hemlock,.....1 drachm.
Cinnamon, or Mint Water,.....8 ounces.

It is sometimes advisable to add to this sweet spirits of nitre about a drachm. In obstinate cases the pustules may be touched with nitrate of silver, but this should be left to a competent surgeon.

Either of the above forms of opthalmia, especially the two latter, may result in ulceration of the cornea, which in its more dangerous form is caused by extensive inflammation of the cornea itself; in its less dangerous form, by the little pustules already spoken of. In the latter case, the treatment should be like that of strumous opthalmia. In the former it cannot be too active and energetic, as there is little chance of saving the eye by other than the strongest methods. The medical man, and no other, can detect the niceties of the case sufficiently well to treat it properly.

Inflammation of the Iris (*Iritis*).

This is characterized by intolerance of light, but not the spasmodic closure of the eyelids before mentioned. The whole colored part of the eye loses its clearness, and sometimes has on it white or yellow spots; a pink zone invests the cornea, and seems to give a tinge to the whole front of the ball. This is a very rapid and violent form of eye disease.

Treatment.—Keep the bowels open with some gentle aperient. Place in the eye one drop of solution of atropia, one grain to an ounce of water, three times a day. Wash the eyes with an infusion of slippery-elm bark, or marsh mallow.

BLEAR EYE.

A term given to an inflammatory appearance of the eyelids and corners of the eye itself.

Causes.—Advancing age, cold, or temporary weakness. It is also caused by hereditary taint, and resolves itself into a constitutional defect.

Treatment.—Where it is not constitutional, use the following lotion: mix five grains of sulphate of zinc in two tablespoonfuls of water. Moisten the eye frequently with a linen rag.

Another good remedy is to take an active aperient of calomel and rhubarb, and bathe the eye with poppy-water. If the eye should feel weak after the inflammation has subsided, bathe it frequently during the day with a lotion composed of one grain of sugar of lead to a large tablespoonful of water.

BLINDNESS.

Deprivation of sight may proceed from various causes, such as one of the diseases which affect the eyeball, or deficiency of power in the optic nerve, local or general paralysis, or any disease whose seat is in the brain or the nervous system; the formation of a speck on the eye, or of a film over the lens. Sometimes the affection of the brain or nerves, from which loss of sight proceeds, is sympathetic, arising from a disordered stomach. In this case, as in many others, it is but transient; and matters may be set right by a blue pill and senna draught, with low diet, and avoidance of the exciting causes of the disorder. If these do not have the desired effect, a surgeon should be consulted, as there is reason to suspect some organic mischief. Leeches on the temples, blisters behind the ears, cupping in the neck,—either or all of these may be tried, should there be a sense of fullness, headache, or giddiness, accompanying indistinctness of vision. In this case, too, more powerful medicines, such as colocynth and calomel pills, should be taken, and a course of depletion vigorously carried out.

Proceeding, as blindness does, from such a variety of causes, few general directions can be given for its treatment. When it is owing to a change in the structure of the eye itself, its approaches will be very gradual, unless this change is the result of active inflammation. Temporary loss of sight is a frequent symptom of apoplexy. It also results from diseases of exhaustion, and sometimes occurs after co-

pious bleeding; its total loss may be effected by a blow on or about the region of the eye. For the blind from birth there is no hope of recovery.

CATARACT.

A disease of the eyes causing opacity of the crystalline lens, which prevents the passage of the rays of light, and so produces blindness.

Causes.—The real cause of this disease does not appear to be well understood. It may proceed from external violence, but more commonly it has some internal and occult origin. It is of slow growth, and can only be operated on at a certain stage, when the opaque body in the pupil has assumed a sufficient density.

Symptoms.—A dimness and mistiness of vision, which may generally be noticed before any opacity can be perceived on the lens itself. Then there are optical illusions, like specks or motes floating before the eye. This is succeeded by the gradual falling, as it were, of a curtain upon the outward view, which is finally obscured altogether. Sometimes the progress of the disease is slow and gradual, but frequently it is rapid, especially in the latter stages. Persons who have passed the middle age are most likely to be affected by it, and sometimes it has made considerable progress in one eye before the patient is made aware of it by some accidental circumstance, which for a time prevents the use of the other.

Treatment.—There is no medicinal remedy that is known to have any effect upon this disease; nor is it at all likely, from the structure of the parts, that any such remedy exists. All palliative measures, therefore, are confined to attention to the general health of the patient, and the removal of any inflammatory symptoms that may exist along with it. The only mode of cure is actual removal by an operation; but so long as one eye remains unaffected, the operation may be delayed.

INFLAMMATION OF THE EDGE OF THE EYELIDS.

The edges of the eyelids are sometimes very red and stiff, in consequence of the inflammation of the small follicles or ducts which open there,

Treatment.—The best remedy is a little red precipitate ointment rubbed into the roots of the lashes, when the lids are closed on retiring to rest. This may be repeated every night until no longer

required. A little grey powder, combined with rhubarb, should be given, and the patient kept quiet and somewhat low. When inflammation has been going on in the eyelids for a time, their insides, when inverted, will often present a rough granular appearance. In this case, they should be gently rubbed over with a smooth piece of dry sulphate of copper. The lid should be kept open after the application until the eyeball is syringed with warm water, to remove from it any of the solution caused by the flow of tears acting on the sulphate. There will probably be great smarting of the eye, and increased redness of the white portion, which must be suffered to subside before the application is repeated, which it will, most likely, have to be many times. Sometimes the hairs on the lids grow inwards and cause great irritation of the balls. Collodion brushed over the lids will, as it dries, cause contraction of the skin, and so draw the hairs outward, but this is only a temporary relief, and the application must be frequently repeated. Surgical aid must be sought for the case.

IMPERFECT SIGHT (*Amaurosis*).

Loss of sight, proceeding from a paralysis of the optic nerve, which may be caused by disease of the nerve itself, or of that part of the brain with which it comes in contact.

Symptoms.—Amaurosis generally comes on very gradually, with dimness of vision, and variations of color, or floating objects, called *spectra*. One symptom is dilation of the pupil and insensibility to light. This disease may be permanent or temporary, as it depends upon causes which are remedial or otherwise. It sometimes is occasioned by an excess of bile in the system, or a disordered stomach; and, in that case, resort would be first had to aperients and mercurials, such as a five-grain blue-pill at night, and a senna, or as it is commonly called, a black draught, in the morning; to be followed up by small doses of calomel and rhubarb, or colocynth, according as the bowels are sluggish or otherwise. If the patient is strong, and of a full habit, he should keep to low diet, and avoid malt liquor or spirits. Should the symptoms not yield to this treatment, blisters should be applied behind the ears, or a seton opened in the back of the neck or temple, as the fair presumption is that the mischief lies in the brain, or the nerve itself.

Treatment.—Cold bathing is very useful; and this, in connection with out-door exercise and a strictly vegetable diet and abstinence from exciting pursuits, will usually effect a cure if a cure is possible.

STYES.

Styes are little inflammatory tumors which frequently make their appearance on the edges of the eyelids of children. They rarely affect grown persons; and, although troublesome, are not at all dangerous locally, nor prejudicious to the general health. They run the same course as boils, which in reality they are.

Treatment.—Generally they require no medical treatment, but when very large and painful, a hot water fomentation will prove beneficial. When once the matter has escaped, they heal very quickly. A simple dressing of spermaceti ointment is sometimes required, but not often.

SQUINTING (*Strabismus*).

Squinting is a disease of the eyes, in which they do not move in harmony with each other. Squinting may be confined to one eye, or it may affect both, and it may be in any direction. If the sight of both eyes is equally good, or nearly so, then all objects are seen double; but if the sight of one is much better than that of the other, the mind only attends to the more vivid impression, and disregards the weaker. Squinting is owing to some affection of the nerves or muscles of the eye. In most cases, it admits of cure by the operation of dividing the muscle by which the distortion is produced.

ULCERATION OF THE CORNEA.

To relieve pain, bathe with a solution of the pith of sassafras. Give attention to the bowels, to delay the progress of the case until aid can be obtained.

FILMS ON THE EYE (*Pterygium*).

This disease appears as a triangular opaque membrane, supplied with many long red vessels, with its sharp point slowly creeping on to the clear part of the eye, generally from the inner side, and crowned with a little brown lump at its angle. Its growth is not inflammatory, but it frequently becomes inflamed with cold. Astringent washes, such as sulphate of copper, three grains; sulphate of zinc, four grains; or acetate of lead, six grains to the ounce of water, will sometimes cause it to shrink and disappear for a time; but, if they give uneasiness to the eye, they must be omitted. When this

affection encroaches permanently upon the sight, we perform, for its relief, certain surgical operations, neither painful nor dangerous, but troublesome and of rather doubtful success.

WATERY EYE.

If we look closely at the inner corner of the eyelids, we may perceive a little point at each, which is the opening of a duct that runs into the nose. These openings convey the tears from the eye; every time the eye is shut in winking, the fluid is forced into those pipes. Now, when either or both become so thickened as to be stopped up, the tears of necessity fall over the cheek; this is called watery eye.

Treatment.— As the cause of this disease is most commonly inflammation, it may be relieved in its early stages by a plan directed towards the lessening of that inflammation, and the best is as follows: Free the bowels well with salts; repeat this in three days afterwards, and apply the following eye-water: Take of common water two ounces; sulphate of zinc, four grains; laudanum, half a drachm; mix, and apply frequently. Cold must be strictly avoided. If the complaint be not removed by the adoption of this treatment, surgical assistance must be obtained immediately, for if the disease be allowed to proceed unchecked, the consequence will be a far more serious and troublesome affection.

WEAKNESS OF THE EYES.

We give below some excellent washes for ordinary weakness of the eyes:—

Sulphate of Copper, ... 15 grains.
Camphor, ... 4 grains.
Boiling Water, ... 4 ounces.

Mix; strain, and when cold, make up to four pints with water. Bathe the eye night and morning with a portion of the mixture. Or the following:—

Spirit of Mindererus, ... 1 ounce.
Rose Water, ... 7 ounces.

Mix, and use occasionally; or this:—

White Vitriol, ... 10 grains.
Elder-Flower Water, ... 8 ounces.

Mix, and apply as occasion may demand.

SYMPTOMS OF DISEASE.

A few remarks on the appearance of the eye as symptomatic of disease, may be useful in conclusion.

A Blood-Shot Eye may indicate either inflammation, or congestion, or extravasation of blood in the organ itself, or catarrh, or influenza, but measles especially.

Contracted Pupil, if it be not the result of local disease, shows that some serious mischief is going on in the brain. There may be compression, or watery effusion. This is not unfrequently the result of taking large doses of opium.

Dilated Pupil occurs in amaurosis, and several diseases of the brain. Small doses of opium will frequently produce this; and the outward application of atropine, or belladonna, will nearly always do so.

Intolerance of Light we have already spoken of as a symptom of strumous ophthalmia. In severe headaches, fevers, and inflammation of the brain, it is also met with.

Prominence of the Eyeballs may result from dropsy of the eye itself, but it is often symptomatic of some obscure disease affecting the brain or heart.

Smarting of the Eye occurs in acute ophthalmia, and in that stage of measles in which these organs are particularly affected.

Squinting, although commonly a chronic condition of the muscles of the eye, is, when it comes on in the course of active disease, indicative of mischief in the brain, which may terminate in apoplexy.

Watering of the Eyes is, when acute, symptomatic of influenza; when chronic, of some obstruction to the flow of tears through the nasal duct.

Yellowness of the whites of the eyes precedes and accompanies jaundice, and indicates an improper action of the liver.

CAUTION.

It should be borne in mind that when lead or mercury, in any of their forms of combination, are applied to the eye for any length of time, they are likely to produce opacity of the cornea, and consequent dimness of vision; and even without this result, the white, by the use of nitrate of silver, may become permanently stained of an olive color.

Herbal, or Eclectic Treatment for the Eyes.

These simple means are sometimes the most useful that can be employed in eye complaints. For inflammatory affections, keep the patient in a darkened room, and give the eyes perfect rest. Bathe them with a little warm milk and water. Poultices of hops or poppy-leaves are very good. If the pain is very severe, use stramonium leaves. The following is an excellent eye-wash:—

Yellow Root,	½ ounce.
Green Tea,	½ ounce.
Boiling Water,	1 pint.

Steep together, and add sulphate of zinc, 1 drachm. When cold, strain through a white flannel. When the inflammation has decreased, use a wash compound of 1 drachm each of powdered white hazle and golden seal leaves, with one gill of boiling water. Let the powders remain about ten or fifteen minutes, then strain; bathe the eye frequently during the day.

For chronic inflammation of the eyes, an excellent remedy is the following: Dissolve one ounce of gum camphor and two ounces of turkey oil; pour a few drops of alcohol on the camphor to cause it to pulverize; then add the oil, and rub them in a mortar till dissolved. Anoint the eyes two or three times a day.

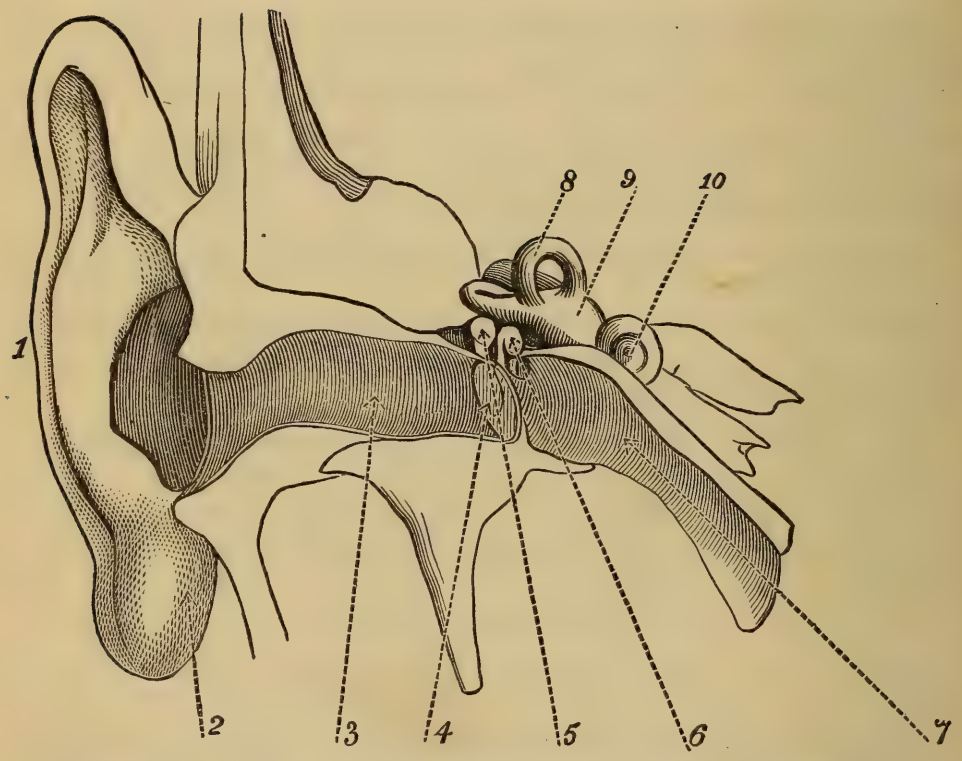
For weakness of the sight and imperfect vision, a powder made of dried barberry-root, and used as snuff, has been found very beneficial; as has also one grain of cayenne steeped in one ounce of water,—a little dropped in the eye occasionally.

On the Care of the Eyes,

The eyes are in such sympathy with the body that a disordered stomach, enervating pursuits, or unwholesome diet or air will at once affect them. These matters should be studiously attended to. In reading or sewing always let the light strike from behind, and not in front of the eyes Many eyes have been ruined by not attending to this matter. Glasses should be worn when difficulty is experienced in reading a book held less than eight inches from the eye. Glasses, if properly selected, will not injure the sight, but preserve it. It is better, however, not to use glasses till they are absolutely indispensable. Avoid quack eye ointments and washes. If the eye is diseased, consult a respectable surgeon. Practice temperance in all things.

THE EAR.

ANATOMY AND FUNCTIONS.



1, pinna; 2, lobule; 3, tube; 4, tympanic membrane; 5, incus, or anvil; 6, malleus, or hammer; 7, Eustachian tube; 8, semicircular canals; 9, vestibule; 10, cochlea.

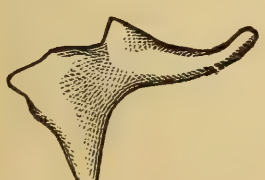
The Ear, the organ of hearing, consists of three parts,—the external ear, the middle ear or tympanum, and the internal ear or labyrinth. The external ear consists of an expanded trumpet-shaped cartilaginous structure, called the pinna, or auricle, which collects the sounds, and a tube which conveys these sounds to the internal ear. The pinna, or auricle, consists of an uneven piece of yellow cartilage, covered with integument, and fixed to the margin of the

auditory canal. This canal, the *meatus auditorius externus*, or tube by which sound is conveyed from the pinna to the internal ear, or tympanum, is about one and a quarter inches in length, and is formed partly by bone and partly by cartilage and membrane. Its direction is obliquely forwards and inwards, and is somewhat bent downwards towards the middle, so that it is rather higher there than at either extremity. The skin lining the auditory canal is very thin, and closely adherent to the cartilaginous and osseous portions of the tube. It is continued over the membrane of the tympanum in the form of a thin pellicle, forming its outer covering. Around the entrance of the *meatus* are some fine hairs; and there are also ceruminous glands, which secrete the ear-wax, and open on the surface by separate orifices.

The middle ear, tympanum, or drum of the ear, is an irregular cavity situated within the petrous bone, and interposed between the *meatus auditorius* and the labyrinth, or inner ear. It is filled with air, and communicates with the pharynx by the Eustachian tube. It is traversed by a chain of small movable bones, which connect the membrana tympani with the labyrinth, and serve to convey the vibrations communicated to the membrana tympani across the cavity of the tympanum to the internal ear. The outer boundary of the cavity is formed by the membrana tympani, and by a small portion of the surrounding bone. This membrane is a thin, semi-transparent substance, nearly oval in form, separating the cavity of the tympanum from the bottom of the auditory canal.

The Eustachian Tube is the channel through which air is conveyed from the pharynx to the tympanum. The small bones, or ossicles,

Fig. 30.



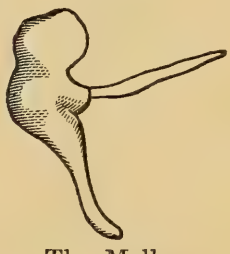
The Incus.

Fig. 31.



The Stapes.

Fig. 32.



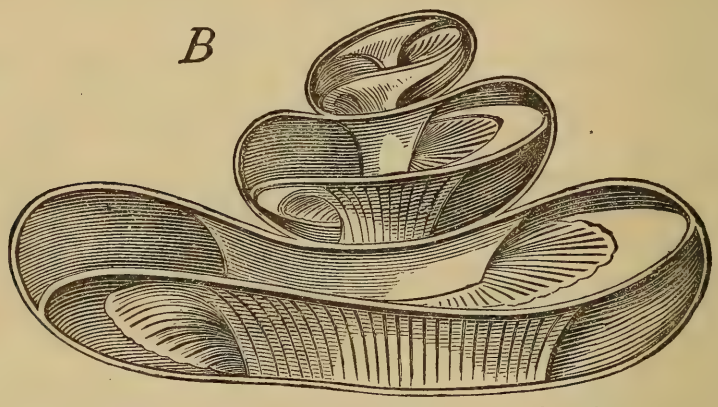
The Malleus.

of the tympanum are three in number,—the malleus, incus, and stapes. These small bones are connected together, and with the tympanum, by ligaments, and moved by small muscles.

The inner and fundamental portion of the organ of hearing is called, from its complexity, the labyrinth, and consists of three parts, —the vestibule, the semicircular canals, and the cochlea. It consists of a series of cavities channelled out of the substance of the petrous bone, communicating externally with the cavity of the tympanum, and internally with the meatus auditorius internus, which contains the auditory nerve. Within the osseous labyrinth is contained the membranous labyrinth, upon which the ramifications of the auditory nerve are distributed.

The Vestibule is the common central cavity of the osseous labyrinth, and is placed behind the cochlea, but in front of the semicircular canals. These are three bony canals, situated above and behind the vestibule, measuring about one-twentieth of an inch in diameter, and opening at both ends into the vestibule.

Fig. 33.



Section showing the hollow of the Cochlea.

The Cochlea, so called from its resemblance to a snail's shell, is conical in form, and placed almost horizontally in front of the vestibule. Its length is about a quarter of an inch, and its width at the base about the same. It consists of an axis, or centre; of a canal winding spirally round it for two turns and a half from the base to the apex; and of a delicate lamina contained within the canal, which follows its windings, and subdivides it into two passages. The whole inner surface of the labyrinth, including the semicircular canals and the passages of the cochlea, is lined with a thin fibrous membrane, the outer surface of which adheres closely to the bone, while the inner is covered with a single layer of epithelium, like that on serous membranes, and secretes a thin serous fluid, called the liquor cotunnii, or perilymph. The auditory nerve, which is distributed

over the different parts of the labyrinth, enters by the meatus auditorius internus, and divides into two branches, viz., an anterior for the cochlea and a posterior for the membranous labyrinth.

DISEASES OF THE EAR.

DEAFNESS (*Surditas*).

Deafness may proceed from any injury inflicted on the delicate organs of the ear by loud noises, violent colds, inflammation or ulceration of the membrane of the auditory passages; hard wax, or other substances interrupting the transmission of sounds; either over dryness, or excessive moisture in the parts; want of tone in the general system from debility. Among one of its frequent causes, is some defect in the structure of the organ itself, which no medical treatment can obviate; in this case there is generally dumbness as well.

Treatment.—The treatment depends to a considerable extent on the cause. If there is an accumulation of hardened wax, or any defective or diseased action in the secreting glands of that substance, a few drops of a saturated solution of common salt, or of ox-gall and balsam of tolu, one part of the former to three of the latter, may be dropped into the ear, while the head is held on one side, night and morning; or applied on a piece of wadding inserted by means of a probe. Before each application, the ear should be syringed out with warm milk and water, or soap and water. If there is a thin acrid discharge accompanying the deafness, syringe the ear with warm water or a decoction of poppies. When deafness proceeds from cold in the head, diaphoretics, the warm foot-bath, and flannel wrappers, must be the remedies; if from debility and consequent loss of tone, drop stimulants into the ear, electrify or galvanize, and give tonics; this will be the treatment, also, if it proceeds from defective energy of the optic nerve.

EAR-ACHE (*Otalgia*).

Ear-ache may proceed from abscess in one or more of the passages, or it may be altogether neuralgic. In children it is not uncommon during the period of dentition, and is especially severe in cutting the permanent teeth. Grown persons sometimes suffer from it when producing their wisdom-teeth. It is often brought on by ex-

posure to cold or draughts. There is not often much constitutional derangement, although the pain is sometimes excruciating, unless it is long continued.

Treatment.—In children, during dentition, lancing the swollen gums will often afford relief, especially if an aperient be given, such as rhubarb and magnesia combined with a little ginger. Elder children may have three or four drops of olive or almond oil, with one or two drops of laudanum dropped into the ear, and take compound senna mixture, repeated until the bowels are freely opened. Should these remedies not prove effectual, a fomentation of camomiles and poppies should be applied, and a warm poultice afterwards. The heart of a roasted onion applied warm to the external orifice will sometimes afford relief. If the case is very obstinate, two or three leeches behind the ear, followed by a blister, may be tried, with an anodyne saline aperient, something like this:—

Acetate of Morphine,	½ grain.
Solution of Acetate of Ammonia,	3 ounces.
Sulphate of Magnesia,	1 ounce.
Water or Camphor Mixture,	5 ounces.

Mix, and take two tablespoonsful every four hours.

When ear-ache is caused by an abscess, and is attended with much swelling and severe pain, hot fomentations and poultices will be the treatment, syringing the external passage with warm water; and, after the abscess has discharged, with a solution of sulphate of zinc, in the proportion of eight grains to the ounce of plain, or rose water, attention being paid to the bowels. With some persons any derangement of the general health will cause the formation of these abscesses, and in such cases the treatment must be rather general than local. Ear-ache, no doubt, often proceeds from derangement of the digestive organs, and may be relieved by active purgatives and emetics.

Where a tonic is required, the following will be found very good:—

Citrate of Iron,	1 drachm.
Strychnine,	1 drachm.
Syrup of Orange-peel,	2 ounces.
Soft Water,	½ pint.

Mix. Dose, one teaspoonful three times a day.

FOREIGN BODIES IN THE EAR.

Insects occasionally make their way into the external ear, particularly in children, when lying on the grass. They sometimes produce horrible torture by irritating the drum of the ear.

Treatment.—Let the child recline with the opposite ear upon a pillow, and fill the affected one with sweet oil. There is no insect that will not perish, or make good its retreat, when this method is pursued.

Solid substances are frequently pushed into the ear by children, where, if large, they sometimes occasion much inflammation, and become firmly wedged by the swelling. Great danger of destruction to the drum and small bones of the ear results from awkward attempts at removing such substances, by which they are driven still deeper into the canal. If the foreign body have any visible projecting point, of which a firm hold can be taken, this may be seized by forceps or pincers, and the body removed directly; but when the substance is rounded, or formed with many faces, or extremely smooth and cylindrical, it is very wrong even to attempt its removal by any such means. Cherry-stones, apple-seeds, common beads, garnets, bugle beads, and pieces of red coral, furnish many cases in point.

If we attempt to seize them in front, they instantly slip farther in, and endanger the drum. We must get behind them and hook them out, always proceeding with great caution. Sudden and severe pain warns us when we touch the drum of the ear, and then all considerable pressure in the inward direction must cease. When the foreign body is small in proportion to the size of the canal, it may generally be removed by means of the little steel ear-picker on the handle of the common pocket tweezers; but, when larger, the eye of a fine bodkin or silver probe should be gently curved and inserted beyond the body to draw it forward. A few drops of sweet oil, previously dropped into the ear, will very much facilitate the operation.

As children sometimes fancy things have got into the ear when they really have not, it is best to institute an examination before attempting their removal. This may be done by drawing the upper lobe of the ear upwards and backwards, which will have the effect of straightening the curved passage so that the eye can discern the drum at the bottom, unless there is an interposing object.

INFLAMMATION OF THE EAR (*Otitis*).

Inflammation of the ear is characterized by an acute and increasing pain, with tenderness on pressure or moving the jaw, accompanied with fever. Sometimes the external ear is the seat of the disease, sometimes the internal, or both may be involved. There is frequently impaired or confused hearing, and often the pain is so acute as to produce delirium. On examination, the meatus is observed to be more or less red, swollen, tender, and dry. After a time, if the disease progresses, suppuration takes place, and pus is discharged. If this happens in the inner ear, frequently the tympanum ulcerates and bursts, so as to afford exit to the collected matter. An obstinate discharge may remain after the other symptoms have disappeared. There frequently remains, also, a thickening of the lining membrane of the meatus, or of its cartilages, thus narrowing the passage, a thickening or perforation of the membrana tympani, an obstruction of the Eustachian tube, the loss of one or more of the small bones, or caries of the mastoid apophysis and petrous portion of the temporal bone, occasioning deafness more or less complete.

Causes.—It is usually caused by cold, or exposure to currents of cold air, injudicious bathing, violent syringing, or probing, or otherwise causing irritation of the ear.

Treatment.—It is to be treated with fomentations and poultices, and the repeated application of leeches. At the same time, active purgatives are to be administered. The ear should also be frequently syringed with warm water.

NOISES IN THE EAR.

Noises in the ear like the distant sound of bells, roaring of the sea, hissing, singing, &c., are often indicative of a determination of blood to the head. With some, mere derangement of the digestive organs will cause these noises. When accompanied by a certain degree of deafness, they are generally occasioned by an accumulation of wax in the external passage, or a partial stoppage of the Eustachian tube by cold. When the noises become chronic, or long continued, bathing the head regularly every morning with cold water will sometimes remove them. If cold be the cause, or disordered stomach, they will pass away with the temporary ailments which occasioned them. If too great a fullness of the veins of the

head, cupping, leeching, or abstraction of blood by means of the lancet, with a depletive course of treatment, must be adopted.

POLYPUS OF THE EAR.

Polypus of the ear is by no means an uncommon form of the fungoid growth, which sometimes occurs in several of the internal tissues. It is of a jelly-like consistence, and a whitish yellow color, and is attached to the membraneous lining of the ear. There are also granulations of fungus which sometimes shoot up from the membrane, and are distinguished by their reddish hue from polypi. These may generally be removed by being held firmly with a pair of forceps, and then gently twisted and pulled at the same time. This should only be done by a properly qualified person, as much mischief may result from the unskillful application of the forceps to so delicate a part. Sometimes, when the polypus is in the external passage, and not far up, it may be destroyed by astringent applications, such as the muriated tincture of steel, or burnt alum, applied with a camel-hair brush.

RUNNINGS OF THE EAR.

Delicate and scrofulous children are liable to a yellow discharge, which suddenly comes on, and is at first often stained with blood, and accompanied by feverishness and great pain in the parts. There is generally redness and swelling of the passages of the meatus, and inflammation of the surrounding skin. This may arise from an inflamed state of the membrane which lines the passages, or from an abscess formed beneath it, or between the cells of the bones of the mastoid process. The discharge may be caused by some foreign substance thrust into the ear.

Treatment.—For the purulent discharge from the ear, which is induced by this or any other cause, a lotion made with two drachms of solution of chlorinated soda to six ounces of rose, or elder-flower water, should be injected, but not with any force. The best method is to let it flow into the ear, held so as to receive it fairly, from a small sponge saturated with the lotion.

Counter-irritation will sometimes have a good effect on purulent discharges from scrofula or other causes. A small blister behind the ear is the best application, but it should not be kept open for any length of time, or it will weaken the system too much. When the discharge is the result of active inflammation, and is attended by febrile symptoms, a spare diet and aperients must be the treat-

ment; but weakly scrofulous systems require a generous diet and tonic medicines.

WAX IN THE EAR.

When this substance becomes too hard, or accumulates too much, there will be a sense of contraction, with cracking or hissing noises, and generally deafness to a considerable extent. In this case the ear should be syringed with warm soap-suds, the instrument used being a proper one for the purpose, holding about four ounces, and having but a small tube or pipe which does not fill the whole passage, but allows the escape of the back-water, for catching which a hand-basin should be held close against the neck. As many as a dozen syringefuls may be injected at one time. A strong lotion should be put into the ear-passage over night, and kept there by means of cotton wool or wadding. Almond-oil and laudanum, in the proportion of two ounces of the former to one of the latter, is a good application in this case, as in many other kinds of ear-disease.

ABSCESS IN THE EAR.

Apply bread poultices to the ear, and warm fomentations; syringe the ear with warm milk and water. When the abscess has broken and discharged freely, the ear must be kept very clean, and a syringeful of a slightly astringent lotion, such as ten grains of sulphate of zinc to a quarter of a pint of rose-water, be injected lukewarm twice a day.

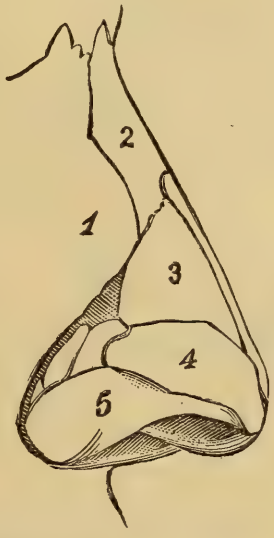
Or this will be found beneficial:—

When there is much discharge, injections of warm soap and water, blisters behind the ear, or a drop or two of the following mixture put into the ear will be found beneficial: ox-gall, three drachms; balsam of Peru, one drachm. Mix.

THE NOSE.

ANATOMY, STRUCTURE, AND FUNCTIONS.

Fig. 34.



Framework of the Nose.

1, part of upper jaw-bone; 2, nose bone; 3, upper side cartilage; 4, lower do.; 5, cellular tissue.

Fig. 35.



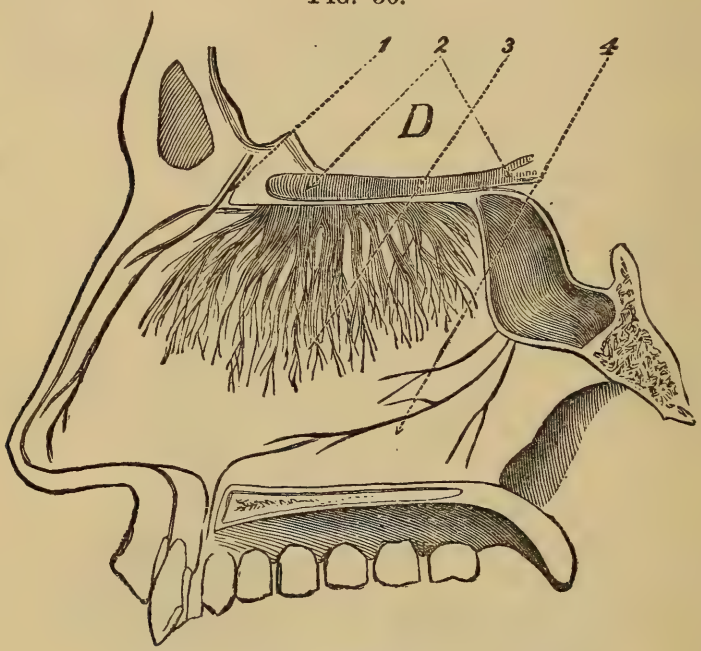
Muscles of the Nose.

1, pyramidal muscle of the nose; 2, muscle to lift the side cartilages; 3, compressor of the nose; 4, front dilator of the nostril; 5, small compressor of the nostril; 7, muscle to pull down the side cartilages,

The Nose is the organ of smell in vertebrated animals; and, in the three highest classes, is connected with the respiratory function. In man, the nose, anatomically considered, consists of two large cavities, called nostrils (*nares*), a right and a left, formed by the bones of the face, and separated from each other by a perpendicular flat partition, called the *septum narium*. The septum of the nose is formed by the vomer, the nasal lamella of the ethmoid bone, and an extensive cartilage. The nasal cavities are bounded anteriorly by the nasal bones, superiorly by the frontal bone and the cribriform

plate of the ethmoid bone, and posteriorly by the body of the sphenoid. The floor is formed by the superior maxillary and palatal bones, and the outer wall by the ethmoid, the internal pterygoid plates of the sphenoid bone, the lachrymal bone, inferior spongy bone, palatal bone, and superior maxillary.

Fig. 36.



Septum of the Nose and its Nerves.

1, nerve of the lobe of the nose; 2, olfactory lobe; 3, nerves of the septum; 4, nerve of the palate.

Each nostril is divided by the spongy bone into chambers, termed the superior, middle, and inferior meatus. The upper wall of the nose is pierced by numerous foramina, through which enter the filaments of the olfactory, or nerve of smell. The mucous membrane lining the nose is called the *Schneiderian*, or *pituitary*, and is continuous with the common integument anteriorly, and with the mucous membrane of the pharynx posteriorly. It is, for the most part, well supplied with vessels, especially veins, and presents also numerous glandular follicles, whose secretion is well known. It receives the filaments of the nerves of smell and of common sensation. The nerves of smell arise from the anterior lobes of the cerebral hemispheres, and their bulbs rest on the cribriform plate of the ethmoid bone, which the branches pierce, to the number of fifteen

or twenty, on each side, and then, running under the mucous membrane, are distributed principally to the septum and outer wall of the nose, communicating with the filaments from the sympathetic cerebral ganglia.

Besides smell, the nose has ordinary sensation, like other parts of the face, depending on filaments of the trifacial or fifth pair of cerebral nerves. The external prominent part of the nose, which gives character to the feature, is composed of several cartilages connected to the bones and to each other by strong fibrous tissue, sufficiently firm to preserve the shape of the organ, and so elastic and flexible as to permit the expansion and contraction of the nostrils in respiration. The nose is not only the organ of smelling, but serves also as the chief passage of the air into the lungs, and has a considerable influence upon the voice.

DISEASES OF THE NOSE.

BLEEDING AT THE NOSE.

Persons of a sanguine temperament, and full habit of body, are most subject to this disease; but it ought to be regarded as a salutary provision for the relief of the overcharged system. If it does not run to a weakening extent it is very questionable whether it should be interfered with. Those who are troubled with vertigo and headache, arising from a fullness of the veins and a tendency of blood to the head, know how much better and lighter they feel after a good bleeding from the nose; and there can be no doubt that many a fit of apoplexy has been averted by it, and many an attack of inflammatory fever, or inflammation of the brain.

Causes.—Violent exercise, great heat, blows on the part, the long maintenance of a stooping posture, and a peculiar smallness of the vessels which convey the blood to the brain, rendering them liable to rupture. It may come on without any previous warning, or be preceded by headache and a sense of heaviness, singing noises in the ear, heat and itching of the nostrils, throbbing of the temporal artery, and accelerated pulse.

Treatment.—When it comes on too frequently and continues long, so as to cause faintness, and especially if the person subject to it be of a weakly habit or advanced in years, it should be stopped as soon as possible. The stoppage may sometimes be effected by

immersing the head in cold water, free exposure to cool air, and drinking cool acidulous liquids. The body of the patient should maintain an erect position, with the head thrown somewhat back, a key or other cold substance be applied to the spinal cord, vinegar be snuffed up the nostrils, or an astringent wash injected with a syringe. It may be composed as follows: Alum and acetic acid, of each two drachms; water, six ounces. Or three drachms of the muriated tincture of iron in the same quantity of water. Or, if these fail, the nostrils may be plugged with lint dipped in a strong solution of the sulphate of copper; or the lint first moistened, and then dipped in finely powdered charcoal. When the bleeding has stopped there should be no haste to remove the clotted blood from the nostrils. Let it come away of itself; do not blow the nose violently, nor take stimulants, unless there be excessive faintness, in which case a little cold brandy and water may be taken. Where there is a full habit of body, cooling medicines and low diet may be safely advised.

CATARRH.

Catarrh, or cold in the head, is the most common of all the disorders to which the human body is subject, more particularly in variable climates, like our own. There are two kinds of this disease, —the one a common cold; the other, influenza or epidemic cold. A common catarrh is an inflammatory state of the mucous membranes of the head or chest. In the former case it is called cold in the head, or coryza; in the latter, cold on the chest, or bronchitis.

Causes.—The common cause of this disease is exposure to a cold or damp atmosphere, or to draughts, especially when the sur face of the body is warm or perspiring. It is frequently occasioned by passing directly from a warm into a cold atmosphere, and, we believe, even more frequently by passing immediately from a cold into a warm atmosphere. Indeed, any sudden atmospheric change is apt, in delicate persons, to produce cold; but in passing from a warm room to the cold air, people generally take some care, though they are not generally aware that the like danger attends passing directly from the cold air into a heated room, and hence do not provide against it.

Symptoms.—The symptoms of a cold in the head are a sense of uneasiness, heat, and stuffing in the nostrils, diminution or loss of smell, dull heavy pain in the forehead, inflamed eyes, sneezing, and

a slight impediment in breathing. Generally, it extends also to the throat and chest, occasioning hoarseness, cough, and difficulty of breathing. Frequently there is also a general derangement of the system, loss of appetite, lassitude, chilliness, succeeded by dry feverish heats, and stiffness of the joints. The nostrils discharge a fluid at first thin and acrid, but which afterwards becomes thicker, and often purulent.

Treatment.—The treatment of a common cold is usually a simple matter. Confinement to the house for a day or two, a warm foot-bath, diluent drinks, abstinence from animal food and vinous or other fermented liquors, and a dose or two of some gentle laxative, are usually sufficient to remove the disease. There is also what is called the *dry* method of cure, which has the advantage of not requiring confinement to the house, though, otherwise, some might be inclined to regard the cure as worse than the disease. It consists simply in abstinence from every kind of drink, no liquor, or next to none, being allowed until the disease is gone. Dr. Williams, its inventor, states that the necessary privation is not hard to bear, and that a cure is effected, on an average, in forty-eight hours. He allows, without recommending, a tablespoonful of tea or milk for the morning and evening meals, and a wineglassful of water at bed-time. The principle acted upon is that of cutting off the supply of watery materials to the blood, and thus leaving nothing to feed the secretion from the inflamed mucous membrane. The best preventive against cold is the daily use of the cold bath, and this is the best means that can be adopted by those who have an habitual tendency to this disease. It should, however, be begun in summer, and the water ought to be at first tepid; but, after being begun, the practice may be continued throughout the winter.

CHRONIC CATARRH (*Ulceration of the Nose*).

This is usually the result of neglected common catarrh, and is exceedingly troublesome, lasting sometimes for years.

Symptoms.—When the inflammation has continued, and ulceration taken place, matter is secreted, which falls down into the throat. This is one of the worst features of this disease, as the matter often finds its way into the stomach, causing a general derangement of the system. In the morning, on rising, great difficulty is experienced in clearing the head and throat. The smell is impaired, and sometimes destroyed. Loss of appetite and general emaciation frequently occur.

Treatment.—The treatment consists chiefly of local washes or injections. If no syringe or douche is at hand, they may be snuffed up the nose. A solution of chloride of potassa, soda, or, lime, is highly recommended, where the discharge is offensive. An injection composed of acetate of lead, sulphate of zinc, sulphate of copper, or nitrate of silver, has been found very beneficial, as has also the inhalation of the vapor of creosote, tar, and vinegar. Common salt is also a good remedy. Alum has been known to arrest the most violent attack in a few minutes. Place about a half drachm in the mouth, and let it dissolve gradually; swallowing a little occasionally.

Herbal, or Eclectic Treatment for Catarrh.

Promote a free perspiration, by taking every night warm hoarhound or boneset tea, which may be drank cold during the day. If the cough is troublesome, take a tea made of slippery-elm bark, or flax-seed. Add a little lemon-juice, and sweeten.

The following is also an excellent remedy for a cough:—Take the yolks of two fresh eggs; beat them up well in a basin; then add a quarter pound of moist sugar, and beat them together. Take another vessel; mix a wineglassful of white-wine vinegar and the juice of two large lemons. Stir all these ingredients up; mix them, and put the whole into a bottle and cork it close. It is fit for use at once. Take a tablespoonful when the cough is troublesome.

FOREIGN SUBSTANCES IN THE NOSE.

Sometimes foreign bodies, such as pieces of tobacco-pipe, &c., get pushed up the nose by children. If it is a bean, or anything which swells by absorption of moisture, the extraction is a matter of great difficulty. This should not be attempted by other than a professed surgeon; yet if the assistance of such cannot be readily obtained, the effort may be made by means of the flat end of a probe or a silver bodkin, bent in about the eighth of an inch at the end, and the instrument then introduced and passed beyond the object, so as to draw it out as with a hook, when the foreign body has not penetrated far. If the opposite nostril is closed, and the child is made to blow the nose violently, it may sometimes be driven out.

INFLAMED AND ULCERATED NOSE.

When the lining membrane of the nose is inflamed and ulcerated,

a solution of carbonate of soda in warm water thrown up by a syringe will be of service. If the purulent discharge be offensive, a few drops of the solution of chloride of soda or lime should be added to this.

POLYPUS OF THE NOSE.

Polypus is a name given to a tumor generally occurring in the nose, but sometimes in the womb, or the ear, and so named from an erroneous idea that it had many roots or feet. It is the result of an excessive growth of the mucous membrane, and sometimes assumes a malignant character. It may be either of a soft texture so as easily to tear and bleed, or firm and fibrous, or even almost cartilaginous. The color is commonly a yellowish grey, and it has little or no sensibility, although it causes much pain by its pressure upon the surrounding parts, stoppage of secretions, &c. It is attached to the surface from which it springs by a narrow neck like a footstalk. When in the nose it interferes with the breathing, so that the patient sleeps with the mouth open. In this situation it may sometimes be destroyed by the persevering use of astringent applications, such as the tincture of steel, applied with a camel-hair brush, twice a day, or a little burnt alum taken like snuff.

THE FACE, LIPS, MOUTH, JAWS, TEETH, AND GUMS.

ANATOMY AND FUNCTIONS.

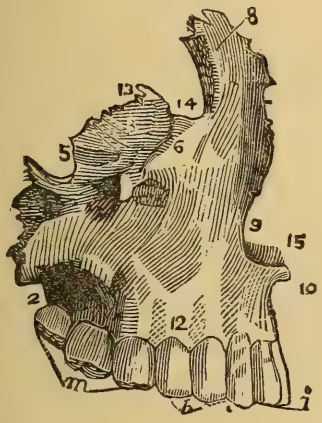
The Face is the lower and front portion of the head. It consists of fourteen bones firmly joined together, except in the instance of the lower jawbone. The principal cavities are the orbits of the eyes, the opening for the passage of the tears into the nose, and the opening for the optic nerves. The nasal cavity in the skull is large, —the nose being composed chiefly of cartilage, divided by thin vertical plates, pierced above with numerous holes for the passage of the olfactory nerves.

The muscles of the face are numerous; and to these we are indebted for that infinite variety of expression that characterizes the human countenance, and gives manifestation to the workings of the human mind.

The Lips are the edge or border of the mouth. In man, and some other animals, the lips are two fleshy muscular parts, composing the exterior of the mouth. In man they cover the teeth, and form part of the organs of speech, being essential to the utterance of certain sounds, called *labiates* in consequence. These parts owe their red color to their extremely vascular structure, and the thinness of the covering membrane; and their sensitiveness, to their abundant supply of minute nerves. By the color and general appearance of the lips, we may often judge with tolerable accuracy of the health of the individual: if they be pale, and thin, and shrunken, there is a deficiency of the red globules in the blood, and a want of vigor in the circulation. This we find to be the case in anæmia and some other forms of disease. When the lips are full, and have more or less purple in their tint, we know that the blood does not undergo its proper changes, and that there is danger of congestion towards the brain.

The Mouth is the cavity in which the tongue and teeth are contained, which serves as a receptacle for the food which is to be conveyed to the stomach, and by means of which articulate sounds are rendered possible. The parts which are immediately connected with it are the lips, the upper and lower jaws, the palate and tonsils, and the fauces generally. It is lined by the mucous membrane,

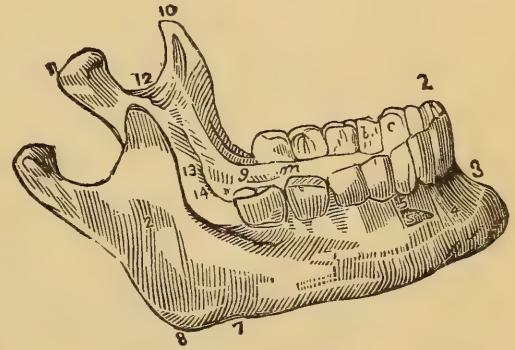
FIG. 37.



The right side of the Superior Maxillary, as seen in its lateral aspect.

1, the external or facial surface; 2, the posterior or zygomatic surface; 3, the superior or orbital surface; 4, the infra-orbital foramen; 5, the infra-orbital canal; 6, the inferior border of the orbit; 7, the malar process; 8, the nasal process; 9, the concavity forming the lateral boundary of the anterior nares; 10, the nasal spine; 11, the incisive or myrtiform fossa; 12, the alveolar process; 13, the interior border of the orbital surface, which articulates with the ethmoid and palate bones; 14, the concavity which articulates with the lachrymal bone, and forms the commencement of the nasal duct; 15, the crista nasalis of the palate process; *i* marks the two incisor teeth; *c*, canine; *b*, the two bicuspidati; *m*, the three molars.

FIG. 38.



The Lower Jaw, or Inferior Maxillary.

1, horizontal portion, or body; 2, the symphosis; 3, the point of conjunction between the two lateral halves of the bone in the young subject; 4, the mental foramen; 5, an oblique opening for the exit of the mental nerve and inferior dental artery; 6, external oblique ridge, which runs upward, and outward to the base of the coronoid process, and gives attachment to several muscles; 7, the groove for the facial artery, the situation of which is marked by a notch on the bone, a little in front of the cipher; 8, the angle, and 9 the extremity of the mylo-hyoidean ridge, which gives attachment to several muscles; 10, the coronoid process; 11, the condyle; 12, the sigmoid notch; 13, the inferior dental foramen; 14, the mylo-hyoidean groove; 15, the alveolar process; *i*, the middle and lateral incisor tooth of one side; *c*, canine tooth; *b*, two bicuspids; *m*, three molars.

which stretches from the tongue to the lower jaw, and is surrounded by the salivary glands, which open into ducts in various parts of the cavity, and supply it with moisture.

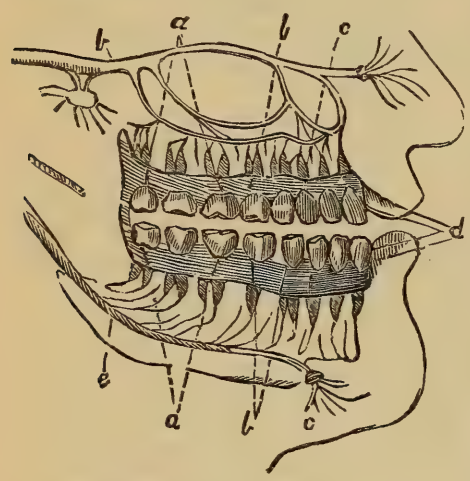
The Upper Jaw, or, as they are generally called, the Superior maxillary bones, are the largest bones in the face, with the exception

of the inferior maxillary or lower jawbone. They form, by their union, the whole of the upper jaw, and assist in the construction of the nose, orbit, cheek, and palate.

The muscles of the jaws, as might be supposed from the work they have to do, are strong and numerous. The action of the lower jaw is effected by the attachment of fourteen pairs, and of the upper by that of ten muscles. Many nerves, arteries, and veins, are also connected with them.

The Teeth.—True bony teeth are found only in the higher or vertebrated animals, and of these only the highest class,—the mammalia, at the head of which is man, have them in single rows in each jaw. The human adult has these rows arched, and sixteen teeth in each row. They are of three kinds, as represented in the following diagram:—

Fig. 39.



The Teeth and their Nerves.

First we have the large teeth behind, with broad flat surfaces, which, on account of their functions, are called Grinders (*a*); they are sometimes termed Molar Teeth or Molares. Altogether they are twelve in number, being three on each side of both upper and lower jaw: the last of them are called Wisdom Teeth in man, from the fact that they do not appear until he is supposed to have attained years of discretion, namely, from the eighteenth to the thirtieth years of his age. Next to these, on each side of both jaws, are two teeth whose surfaces are less broad, and which, having two sharp projections on each, are termed Bicuspids (two-pointed) (*b*). The sixth tooth on each side is the Eye Tooth (*c*); it has but one point or projection, hence these teeth have been called Cuspidata (pointed). From its large development in dogs, this has been called the Canine Tooth. Between these last on each side, coming in front of the mouth, we have four teeth which have neither the broad surface of the grinders, nor the point of the cuspidata; but they are flat, having a sharp edge like a knife; hence they have been called Incisors, or Cutting Teeth (*d*).

The following illustration (Fig. 40) exhibits more clearly than the foregoing, the peculiar form of the Molares, Bicuspids, and Cuspids, with their fangs or roots:—

Fig. 40.



These three sorts of teeth, which we may call grinders, tearers, and cutters, represent three classes of teeth among the lower animals; that man has them all we may take as an evidence that he is intended to be an omnivorous feeder.

Although the teeth form so prominent and distinguishing a feature of all the full-grown individuals of the higher forms of animals, yet most of these animals, including man, are born without any teeth at all. When the child is born, the jaw is covered with gums, but underneath the gums are little cavities in which the teeth are formed; and, as they go on growing, they at last press upon the gum, and causing it to absorb, finally break through it. This process is called *dentition.* It is frequently a source of disordered health to children, especially if anything occurs to prevent the absorption and ready yielding of the gum to the pressure of the tooth below. The absence of teeth during the period of human infancy evidently indicates that the food required at that period does not need their employment. It is a well-known fact that the food of the infant is its mother's milk; but it is too often forgotten that, till teeth are developed, Nature does not intend the child to take food that requires preparation by teeth in order to its digestion. The practice of feeding young children with solid food is the cause of great destruction of life; and even sops should only be sparingly administered, in cases of necessity, till the first teeth have appeared.

From what we have before said, it will be seen that in the adult man there are thirty-two teeth; but if we examine the jaw of a child after it has "cut" all its teeth, and before it is six years old, we shall find that it has but twenty. Nor are these teeth increased in number by the addition of others; but whilst this first set of teeth are performing their duties, an entirely new set is growing underneath them, in precisely the same way as they did at first. Gradually the fangs of the first set of teeth are absorbed, in consequence of the pressure of those beneath, and they fall out, or are easily removed, and make way for the others. The order in which the teeth appear,

as well as the time, is subject to considerable deviations, but the following periods will be found to be about the time:—

FIRST, OR MILK TEETH.

2 lower middle incisors,	4th to 8th month.
2 upper middle incisors,	4th to 8th month.
4 lateral incisors,	4th to 11th month.
4 anterior, or first molars,	12th to 18th month.
4 eye, or canine teeth,	16th to 22d month.
4 back molars,	19th to 38th month.
20	

In some children the whole of the teeth may be cut by the end of the third year, whilst in others, the process of dentition may be prolonged to the fifth year.

ORDER OF APPEARANCE OF THE PERMANENT TEETH.

4 first molars, one on each of the two sides of the two jaws,	6th to 7th year.
4 middle incisors, two in each jaw,	7th to 8th year.
4 lateral incisors, a little later than the last,	7th to 8th year.
4 first bicuspids,	8th to 9th year.
4 last bicuspids,	10th to 12th year.
4 eye, or canine teeth,	11th to 13th year.
4 second molars,	12th to 14th year.
4 back molars, or wisdom teeth,	18th to 30th year.
32	

The internal structure of the teeth is very complicated. The minute structure is found to be no less indicative of the species of animal to which it belongs, than the whole tooth itself; so that with regard to the teeth we may say, that a morsel so small as not to be distinguished with the naked eye, should yet enable the skillful anatomist to judge of the form of the whole tooth, and thence to infer the particular kind of animal to which it belonged. We cannot go into details of the dental structure of the lower animals, but all that possess true teeth exhibit the same facts as we find in man. If we make a vertical section of a tooth with a fine saw, and after having polished it on a hard and smooth whetstone, submit it to an examination under the microscope, we shall easily make out the

parts indicated in the cut. We shall discover that there are three very distinct portions. First, the enamel (in cut *a*), which covers the whole of the external part of the tooth; second, the dentine (*b*),—this substance, which is so largely developed in the tusks of the elephant and other pachydermatous animals, constitutes ivory; third, the cement (*c*) or bone, forming the external covering or facing of the tooth. In the middle of the tooth (*d*) is the pulp cavity. Into this cavity the nerves and blood-vessels of the tooth penetrate, and thus serve to maintain the living connection between the tooth and the rest of the body. The distribution of the nerve in this cavity will serve to explain how it is that by the removal of a decayed part, and stopping it with some kind of cement, that access to the air is prevented, and the danger of further decay removed.

Fig. 41.



Vertical Section of a Tooth.

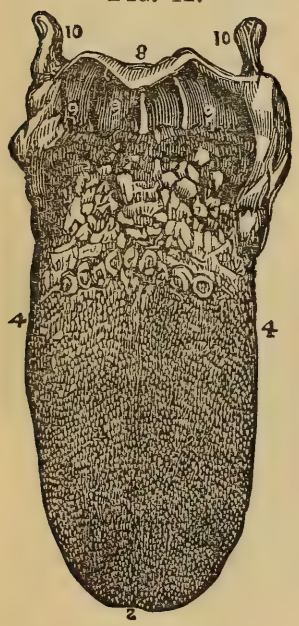
Each hard part of the tooth is differently formed. The enamel is by far the hardest of these structures, and is composed of dense semi-transparent fibres, placed side by side, and so small that they do not measure more than the five-thousandth part of an inch in diameter. These little fibres penetrate the dentine beneath. This substance is composed of two parts, namely, a number of very minute tubes anastomosing with each other, and an intertubular tissue. The tubes commence in the pulp-cavity, and pass on to the outside of the tooth. The intertubular substance is composed of very minute white granules or globules. The cement which covers the outside of the fang has a structure precisely like that of ordinary bone.

The teeth are inserted in—or rather, developed out of—the upper and lower jaws. The upper jaw is fixed, but the lower jaw has two round projections, which are inserted into cavities in the skull, in which they move with great facility. This movement is different in different animals. In those creatures which feed upon vegetable fibre, as it exists in the leaves and branches of plants, the jaw admits of a lateral motion, and the trituration and reduction of this kind of food is thus insured. On the other hand, in animals which partake of food that requires no bruising before it is carried into the stomach, this lateral movement would be of no use; hence, in

the carnivora we find this action of the jaw confined to a simple up-and-down movement, by which the food is merely divided or cut into smaller pieces. When we examine the jaw of the human being, we find that it has a combination of these two movements,—that it combines the rotatory action of the ruminant with the up-and-down movement of the carnivora.

In the structure of the jaws and teeth of man, we find a clear indication that he is adapted for taking food from both the vegetable and the animal kingdom, seeing that in the organs which prepare the food for digestion, we find instruments adapted for the preparation of both forms of diet. It is evident that the teeth of men are only adapted for dividing and triturating flesh and vegetables; and the delicacy of their structure would seem to indicate that even these forms of food should be cooked. They neither possess the sharpness and strength of those of the lion, nor the broad surface of those of the ox or the elephant. The attempt to masticate hard substances—to crack nuts, or in any manner to strain the strength of the teeth and jaws—is injurious; and many persons have to regret all their lives foolish practices of this kind.

Fig. 42.



The Tongue.

1, the raphe, which sometimes divides in two branches as in the figure; 2, 2, the lobes, the rounded eminences here and near the top being the *papillæ fungiformes*, — the smaller ones among which they are dispersed being the *papillæ conicecæ* and *filiformis;* 3, tip of the tongue; 4, 4, its sides, on which are seen the lamellated and fringed papillæ; 5, 5, the A-shaped row of *papillæ circumvallata;* 6, the *foramen cœcum;* 7, mucous glands at the root of the tongue; 8, epiglottis with its frœna (9, 9); 10, 10, the greater cornua of the *os hyoides.*

The Tongue.—The tongue is composed of muscular fibres, which are distributed in layers arranged in various directions. Between these fibres is a considerable quantity of adipose substance, and in the middle is a vertical septum of fibrous tissue. The tongue is connected behind with the os hyoides by muscular attachment, and to the epiglottis by the mucous membrane, which forms the three glosso-epiglottis folds called Frœna Epiglottidis. At either side it is held in connection with the lower jaw by the mucous membrane; and in front a fold of that membrane, which is named Frœnum Linguæ, is formed beneath its under surface. The tongue is covered by a dense layer,

analogous to the corium of the skin, which gives support to the Papillæ. A Raphe marks the middle line of the tongue, and divides it into symmetrical halves.

The tongue, like the whole of the internal passages of the body, is covered with mucous membrane. This membrane, when examined, is found to be a continuation of the skin which covers the external surface of the body, and, like it, is composed of two principal parts,—a layer of fibres and vessels, covered above with cells. It is the condition of these superficial cells that constitutes the difference between the skin and mucous membrane. The first are always dry and hard, whilst the latter are soft, and covered with a fluid secretion, called mucus. This membrane covers the whole surface of the tongue, and is prolonged below, passing on either side of a mass of tissue under the tongue, which is called the Frænum, or string of the tongue. It is this part of the tongue which, being prolonged to an unusual extent along the floor of the mouth, constitutes the condition which is called "tongue-tied." It is very seldom indeed that this affection exists to an extent to require interference; but it is very often imagined to be present by officious nurses and anxious mothers, when the structure of the tongue is perfectly natural. It is to be feared, too, that the simplicity of the process of cutting the frænum has sometimes induced surgeons to perform this operation when there was no necessity. It should, however, be known that occasionally so large a blood vessel may be wounded in this proceeding as to produce alarming consequences on the system of a new-born babe.

Under the mucous membrane, and causing projections on its surface, lie the Papillæ of the tongue. These papillæ vary in size, but are very obvious to the naked eye when the tongue is put out. On examining them with the microscope, they are found to consist of blood-vessels and nerves. The nerves which are sent to these little papillæ are not supplied from the same nerves which are furnished to the muscles in order to give them the power of movement, but from a special source; and the branch of the nerve which is thus supplied is called the *gustatory*, on account of its being the part of the nervous system which gives the special sense of taste. Through this organization, then, the tongue is not only enabled to assist in mastication, but it becomes the principal source of enjoyment in the taking of food that is agreeable to the taste.

The mucous membrane, as well as the form of the tongue, are

liable to considerable changes in appearance, indicative of disordered states of the system. It is on this account that the tongue is so constantly examined by the medical man in diseases of the body. Its form and movements will often indicate the general state of the nervous and muscular systems; whilst the appearance of the surface is an index to the condition of the mucous membranes throughout the whole body. Dryness, redness, smoothness, and the amount of white secretion on its surface, are all points from which important conclusions can be drawn, both with regard to the nature and treatment of disease.

The Gums are the cellular and mucous membranes which cover the alveolar processes of the jaw before the growth of the teeth, the fangs of which they afterwards envelope.

DISEASES OF THE FACE, LIPS, MOUTH, JAWS, TEETH, AND GUMS.

The face is subjected to several affections, as face-ache and eruptions, but we have referred to these under the head of "Skin Diseases;" and also under the head of "Neuralgia" and "Erysipelas," these painful diseases are fully treated.

CHAPPED OR CRACKED LIPS.

The lips are often chapped and cracked by exposure to cold, and it is sometimes a difficult matter to heal them. The following is a good form for lip-salve to be used in such a case:—

White Wax,	2½ ounces.
Spermaceti,	½ ounce.
Almond Oil,	3 ounces.

Melt together, stir well, and put by to cool; apply to the lips on going to bed at night. It may be made of a pretty pink color by tinting the oil first with a small piece of alkanet-root, which should be taken out before the other ingredients are introduced. When the lips heat and burn much, a little cold cream will be found a pleasant and serviceable application.

CANKER OF THE MOUTH.

This is a gangrenous inflammation which chiefly affects the cheeks and gums of children of a weakly scrofulous habit, with constitu-

tions debilitated by want of wholesome food, impure air, and all the bad influences of poverty and wretchedness, which surround so many of the poorer classes.

Causes.—Canker may be produced by the contact of copper or brass with the inside of the mouth. It is very often attributed to mercury, but this can only, when given in large doses, contribute to its development. Its most frequent cause is weakness and debility, combined with a scrofulous or diseased body. Very frequently the disease shows itself soon after measles, scarlet fever, or other acute inflammatory affections.

Symptoms.—Its first symptom is usually a hard red spot on the cheek, which spreads and opens into a shallow ulcer on the inside, discharging matter of a peculiarly offensive character. As the disease progresses, the cheek swells, the breath becomes fœtid, there is a great flow of saliva, which is often tinged with blood; there is mortification of the surrounding parts, including the gums; the teeth drop out, typhoid symptoms show themselves, and, finally, the patient sinks exhausted, death coming like a happy release from its sufferings. This is the usual course, if early efforts are not made to arrest the progress of the disease.

Treatment.—As soon as the red spot in the cheek gives warning of its commencement, the constitution should be strengthened with good nourishing diet, such as beef tea, milk, and eggs, if the stomach will bear them; wine, if there is extreme debility, and no great amount of fever; quinine, in half-grain doses three times a day, in infusion of gentian, or decoction of bark, may be given, or some preparation of iron with a warm stomachic, as the following:—

Wine of Iron,..... ..... 2 drachms.
Compound Tincture of Cardamums or of Valerian, ... 2 drachms.

Made up to eight ounces with cinnamon or mint water; one or two tablespoonfuls twice or thrice a day. Change of air, sea bathing, and anything which is likely to invigorate the constitution should also be tried. Chlorate of potash, 1 drachm, with twenty drops of muriatic acid, in six ounces of water, sweetened with a little syrup of orange-peel, is a pleasant and serviceable mixture. It may be given to a child six years of age, a tablespoonful every four hours. For local treatment, lunar caustic, or sulphate of copper, rubbed along the edges of the wound, are recommended. The mouth should be frequently washed with a lotion made of chloride of soda and

water, in the proportion of two drachms of the former to half a pint of the latter; or it may be, one drachm of chloric ether to the same quantity. By this means the unpleasant fœtor is diminished so as to be endurable. When extensive ulceration and sloughing takes place outwardly, poultices must be applied.

OFFENSIVE BREATH.

Fœtid breath may proceed from decayed teeth, or morbid secretions about the tonsils, or disease of the lungs. In children it generally indicates a disordered state of the stomach, which may be corrected by means of purgative medicines. Where it cannot be so remedied, it will be well for the patient to chew a little cinnamon occasionally, or take half a tumbler of camomile tea on rising in the morning. If the cause is local, the mouth should be washed with a weak solution of chloride of lime, or soda.

SORE MOUTH.

Some persons are much troubled with small ulcerations of the mouth, which give great inconvenience. They are seen on the edges of the tongue, the gums, and the inside of the lips or cheek. They are small, irregular, superficial, often numerous, very painful, sometimes surrounded with many enlarged vessels and a small ring of bright red hue. They often prove obstinate, because they are caused by a bad condition of the bowels.

Treatment.—Take of honey two tablespoonfuls; borax, powdered, half drachm; mix well together, and take a teaspoonful twice a day. The mixture should be placed in the mouth, little by little, touching the various ulcers that are visible, or can be got at.

INFLAMMATION OF THE TONGUE (*Glossitis*).

Causes.—Mechanical injury, exposure to cold, the use of mercury, &c.

Symptoms.—The tongue becomes greatly swollen, and is painful to the touch; respiration and deglutition are much interfered with, and one of the chief dangers of the attack is suffocation.

Treatment.—In mild cases, ice and the use of purgatives will afford relief; but, in the more severe forms, leeches will have to be applied to the part, or the knife may have to be used, and pretty deep incisions to be made into the inflamed part, which will afford almost instantaneous relief.

TOOTH-ACHE.

For this distressing and very common malady almost every one has a "sure cure," the peculiarity of which is, that it does little or nothing to mitigate the anguish of the sufferer to whom it is recommended. Among the remedies which we have to suggest, as having found them pretty generally successful, are, creosote, chloroform, and laudanum. Separately or in combination, they may be tried all ways. The mode of application is to saturate a small piece of lint or wadding, and introduce it into the hollow of the tooth, keeping it there as long as may be necessary. Should there be no available hollow, put it as close as possible to the seat of pain. Many of the other remedies recommended we have known to afford relief occasionally; such as inhaling the vapor from henbane seeds, put on a hot piece of metal; chewing a piece of pellitory-root, or using the tincture; putting a piece of sal prunella in the mouth and allowing it to dissolve; applying a drop or two of the oil of cloves, or cinnamon, on lint; or thrusting into the hollow tooth a piece of wire previously dipped in strong nitric acid,—this application, if properly made, destroys the nerve, but it must be very carefully done, so that the acid does not touch the other teeth or the mouth. An aching tooth may oftentimes be stopped, and remain serviceable for years; but this must not be done while the nerve is in an inflamed state, as in this case the pressure will but increase the anguish. Where a tooth is so far gone as to be very troublesome, it is best to have it out.

LOOSE TEETH.

The teeth may become loosened by external violence, or by the improper use of instruments when extracting diseased teeth in the neighborhood of sound ones.

Treatment.—Press them as firmly as possible into their sockets, and keep them so with ligatures of catgut, Indian weed, or waxed silk, the patient for the time being living on spoon food. When teeth become loose owing to an accumulation of tartar, no good can be effected until this is removed, and it ought to be done early, otherwise it will have no effect. Looseness of the teeth is frequently occasioned by a sponginess of the gums. To remedy this, scarify the gums deeply, and allow them to bleed freely, repeating the operation till the teeth become partially fastened. Afterwards wash the mouth frequently with water strongly impregnated with tincture

of bark, and employ the teeth sparingly until the loosened teeth become perfectly firm again. Or the following mixture:—Borax, alum, bay salt, of each one drachm; spirit of camphor, tincture of myrrh, of each one ounce; spirit of horseradish, four ounces; tincture of rhatany, two ounces. Mix, and shake occasionally for a day or two, then filter. Rinse the mouth occasionally with a teaspoonful in a wineglassful of water.

CARE OF THE TEETH.

The teeth should be kept clean. There are two sources of impurity to the teeth. The first is from a deposit of tartar upon them near the gum; and the second is from portions of food adhering to them after meals. The accumulation of tartar is a frequent source of disease in the teeth and gums, and precautions should be taken to prevent its adherence to them. The best plan is that of cleaning them with the brush night and morning. All chemical products should be avoided. Anything which acts chemically upon the teeth will open the way to speedy decay. The simplest dentifrice, and one of the best, is a mixture of prepared chalk and well-powdered camphor. The chalk acts as a scouring material, whilst the camphor stimulates the gums, and counteracts the decomposition of any small particles of food that may lurk amongst the teeth. The purer the water that is employed for washing the teeth the better.

To cleanse away portions of food adhering to the teeth, the toothpick should be used. Metallic toothpicks are objectionable,—those made of bone or quills are to be preferred.

When teeth are found to be decayed, immediate attention should be paid to them. They more frequently indicate serious derangement of the health than is imagined. Where teeth are already decayed, they can not be restored to their pristine integrity, but the decayed part may be removed, or the whole tooth may be extracted. The sooner this is done the better; for decay has an undoubted tendency to spread, and nothing is so disagreeable to other people as the breath of a person tainted with the faint odor of decomposing teeth. Decay of the teeth frequently comes on from long-continued indigestion, from exposure to cold, from a scrofulous habit of body, from eating and drinking very hot or very cold articles of diet. Now, in all diseases, prevention is better than cure. Persons should take care to avoid those states of the system, and those causes which are known to produce decayed teeth.

GUM-BOIL.

This sometimes arises from exposure to cold, but is caused in the majority of cases by the irritation of a decayed tooth.

Treatment.—Inflammation of the gum generally goes on to suppuration, to promote which, warm fomentations and poultices may be applied externally. As soon as the matter is formed the abscess may be cut or lanced. Afterwards the mouth should be washed occasionally with an astringent lotion composed of tincture of galls and water, or of twenty or twenty-five grains of sulphate of zinc, dissolved in half a pint of rose-water.

SORE TONGUE.

The tongue is liable to become sore or ulcerated, most commonly along the edges; and there are frequently seen small pimples and cracks.

Treatment.—Take mild and cooling aperients, particularly calcined magnesia, either alone or in a seidlitz powder. Let the drink consist chiefly of soda-water, and the diet be light and cooling. Touch the sores with burnt alum, and wash the mouth frequently with borax and honey dissolved in water, or solution of chloromated soda and water, so weak as not to produce much smarting.

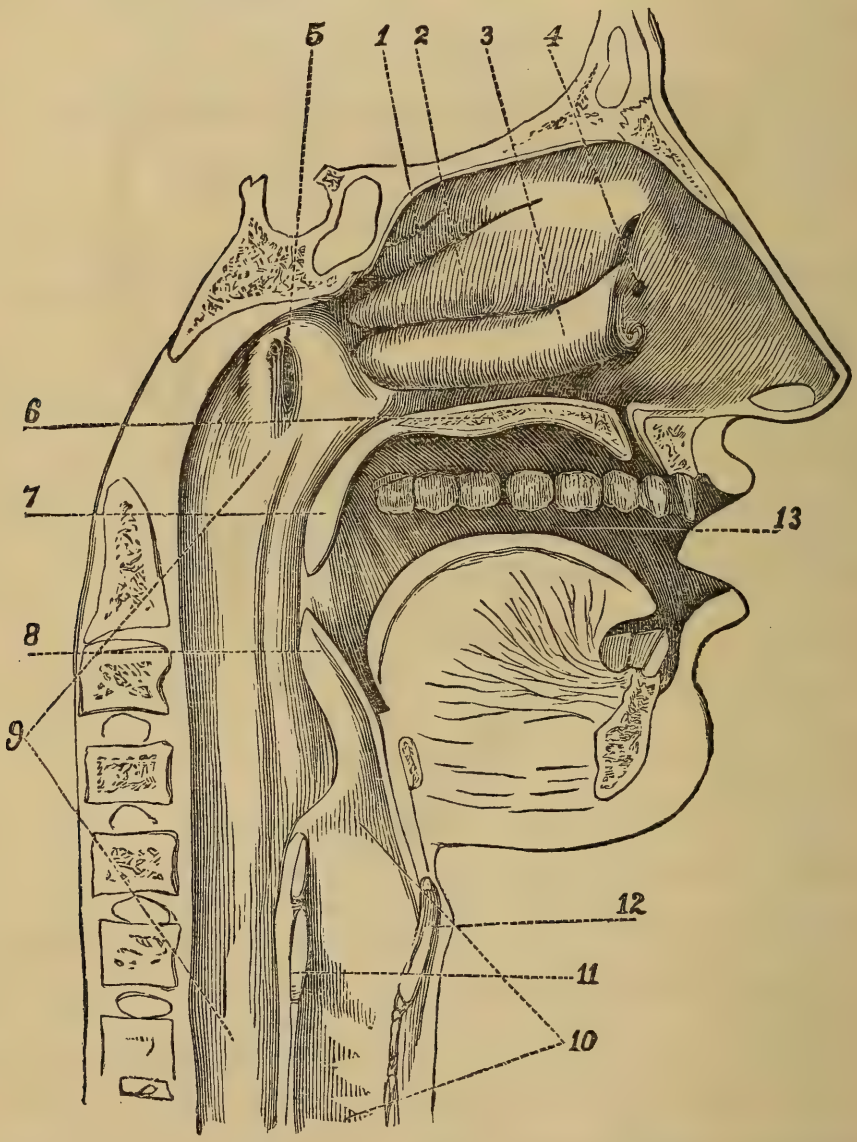
STAMMERING.

This defect of speech sometimes proceeds from functional disorder, sometimes from nervousness, sometimes the result of irritation. From whatever cause it originates, it is in the majority of cases to be cured by an exertion of the will.

Treatment.—Stammerers, although they cannot speak a single sentence without hesitation, can sing a song of many verses as fluently as any person; and it is almost as true that stammerers can read with equal ease. It is therefore to be recommended that those who stammer should begin with a set of exercises of commonplace sentences, chant to the first bars of the simplest melody, such as "My Country," and from that, practise those sentences upon one note, ending a note lower or higher, slowly at first, but gradually increased to rapidity.

THE THROAT.

ANATOMY AND FUNCTIONS.

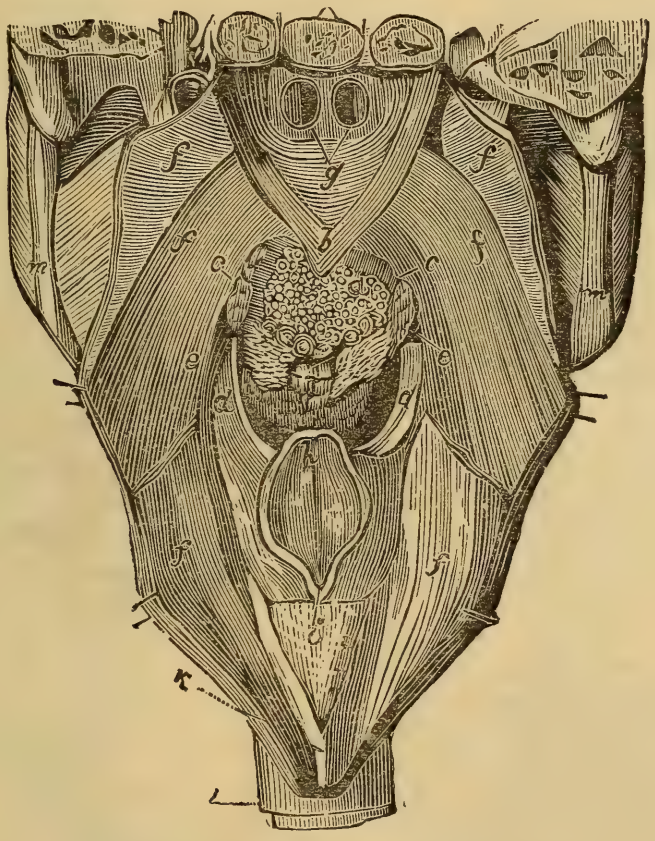


Vertical Section of the Head, showing the relation of air and food passages.

1, upper turbinated bone; 2, middle turbinated bone; 3, lower turbinated bone; 4, hole leading to the canal which drains the eye; 5, Eustachian hole; 6, palate; 7, uvula; 8, epiglottis; 9, pharynx; 10, larynx; 11, cricoid cartilage; 12, thyroid cartilage; 13, cavity of the mouth.

The Throat, as popularly understood, is of somewhat indefinite meaning; for few can tell where the throat begins and ends, or what organs it includes. It is generally understood to mean that part of the human frame in which are the passages for food and breath, namely, the gullet and windpipe, or all that hollow cavity which may be looked into when the mouth is wide open.

Fig. 44.



The Pharynx laid open from behind.

a, tongue; *b*, palate; *d*, *e*, front and back of the palate; *f*, walls of the pharynx; *g*, posterior nares, separated by the vomer; *h*, epiglottis; *i*, head of windpipe; *k*, œsophagus; *l*, windpipe; *m*, under jaw.

The Trachea is the cartilaginous and membranous canal through which the air passes into the lungs, commonly known as the windpipe. Its upper part is called the larynx, the uppermost and smallest part of which is called the epiglottis, being placed over the glottis, or mouth of the larynx, and serving to close the passage to the lungs in the act of swallowing. From the lower end of the

larynx the canal takes the name of trachea, and extends as far down as the fourth or fifth vertebra of the back, where it divides into two branches, which are the right and left bronchial tubes. Like the larynx, it is formed of cartilages, united to each other by means of very elastic ligamentous fibres. It is also furnished with fleshy or muscular fibres, some of which pass through its whole extent longitudinally, while others are carried round it in a circular direction; and hence it may shorten or lengthen itself, or contract or dilate its passage.

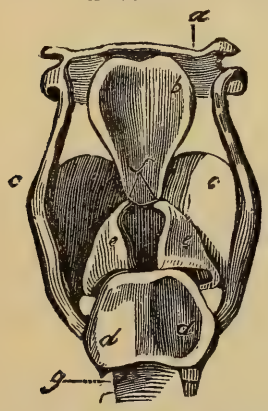
Fig. 45.



Interior of the Mouth.

Larynx is the name given to the organ of the voice, situated at the upper and fore part of the neck, where it forms a considerable projection. It extends from the base of the tongue to the trachea; is narrow and cylindrical below, but broad above, where it presents the form of a triangular box, being flattened behind and at the sides, whilst in front it is bounded by a prominent vertical ridge. It is composed of cartilages connected together by ligaments, moved by

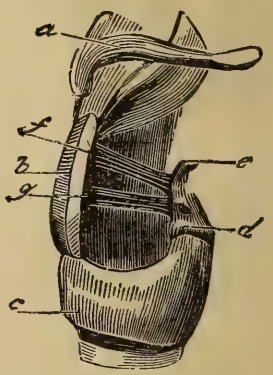
Fig. 46.



Back View of the Cartilages and Ligaments of the Larynx.

a, ligament of the tongue; *b*, epiglottis; *c*, the lateral ligaments connecting the os hyoides and the thyoid cartilage; *d*, cricoid cartilage; *e*, arytenoid cartilages; *g*, the windpipe.

Fig. 47.



Side View of the Larynx.

a, ligaments of the tongue, with the epiglottis at the back; *b*, thyroid cartilage; *c*, cricoid cartilage; *f*, *g*, the vocal cords.

numerous muscles, is lined by the mucous membrane, and supplied with vessels and nerves. The cartilages of the larynx are nine in number, three single and three in pairs, namely, the thyroid, cricoid,

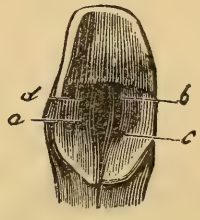
FIG. 48.



Back View of the Head of the Pharynx, Œsophagus, and Trachea.

a, the skull; *b*, cerebellum; *c*, cephalic artery; *d*, nasal organs; *e*, vomer; *f*, uvula; *g*, tongue; *h*, parotid glands; *i*, epiglottis; *k*, larynx; *l*, head of the pharynx; *m*, œsophagus; *n*, trachea; *p*, left branch; *q*, right branch of the trachea; *r*, large artery; *s*, the heart; *u*, lower vena cava; *v*, the lungs.

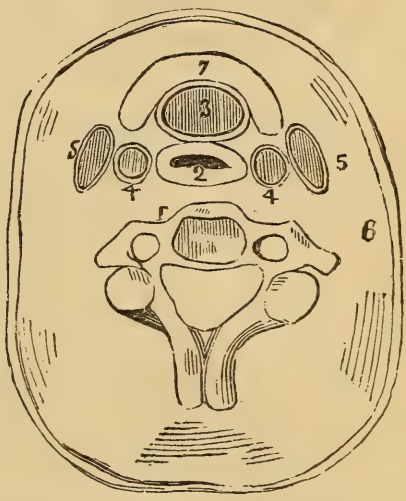
FIG. 49.



Mouth of the Windpipe.

a, glottis; *b*, *c*, *d*, the vocal cords.

FIG. 50.



Transverse Section of the Neck.

1, vertebræ, or joints of the great spinal column; 2, the œsophagus, or gullet, somewhat flattened, as in a state of rest; 3, the windpipe; 4, 4, the carotid arteries; 5, 5, the internal jugular veins. These, with the nerves, glands, the external jugular veins, and muscles of the neck, are enclosed within the skin marked by the double line and figures 6, 6; in front of the windpipe lies the thyroid gland, 7.

epiglottis, the two arytenoid, the two cornicula laryngis, and the two cuneiform. The upper opening of the larynx is termed the glottis. The vocal ligaments are two narrow bands of dense fibrous

and highly elastic tissue, stretched between the anterior angle of the thyroid and the anterior surface of the arytenoid cartilages.

The Œsophagus is the gullet, or the membranous tube leading from the pharynx to the stomach, and forming the passage through which the food descends into the latter organ. It commences at the cricoid cartilage, opposite the fifth cervical vertebra, and, descending along the front of the spine, passes through the diaphragm opposite the ninth dorsal vertebra, and there ends by opening into the cardiac orifice of the stomach. Its length is about nine inches, and its direction nearly straight, having only two or three slight curvatures. Its walls are composed of three coats,—an external or muscular, a middle or areolar, and an internal or mucous coat. In the neck, the œsophagus lies immediately behind the trachea.

The Pharynx is the muscular funnel-shaped bag at the back part of the mouth, which receives the masticated food, and conveys it to the œsophagus. It is broadest about the middle, being constricted at either end, more particularly below, where it terminates in the œsophagus.

The Tonsils are the round or oval-shaped glands situated between the arches of the palate. They secrete a mucous fluid, the use of which does not seem quite clear. In their natural state they can easily be discerned slightly projecting on each side of the fauces; but when swollen and inflamed, as they often are in weakly and scrofulous persons, they are very noticeable, being bright red, and often hanging down so as nearly to close the passage of the gullet, and render swallowing very difficult.

DISEASES OF THE THROAT AND WINDPIPE.

BRONCHITIS.

Bronchitis may be succinctly described as inflammation of the lining membrane of the passages of the throat, through which the work of respiration is carried on. It will be evident that an inflamed state of these passages must, besides the local irritation caused thereby, seriously interfere with the vital functions. Bronchitis is either acute or chronic.

Causes.—The exciting causes are nearly always exposure to cold and moist air, against which, in this variable climate, people cannot too sedulously guard. Inhaling irritating substances or vapors will also cause it.

Symptoms.—The acute stage may commence immediately after exposure to cold. Most usually the lining membrane of the eyelids, nostrils, and throat are first affected, and then the inflammation extends downwards into the chest. The earlier symptoms are running at the nose, watering of the eyes, frequent sneezing, and all the distressing symptoms of what is generally known as Influenza. The fever generally runs high; there is extreme lassitude, with headache, and probably a troublesome cough, with expectoration of mucus. With adults this, the most active stage of the disease, frequently assumes a very dangerous character, and prompt measures are required to arrest its progress. If the febrile symptoms continue to increase in intensity, and the breathing becomes difficult from the clogging of the tubes with mucus, there is great reason for apprehension.

Treatment.—The patient should, as a matter of course, be confined to bed; warm diluent drinks, such as flaxseed-tea, or barley water, with a slice or two of lemon in it; gentle aperients, if required; foot-baths, and hot bran-poultices to the chest. The chief dependence, however, is to be placed upon nauseating medicines. Four grains of ipecacuanha powder, in a little warm water every quarter of an hour, until vomiting is produced, and should be kept up at intervals of two or three hours. Sometimes a state of coma or collapse follows this treatment, and then it is necessary to give stimulants: carbonate of ammonia in five-grain doses, or sal volatile, half a teaspoonful about every hour. These are preferable to alcoholic stimulants; but should they not succeed, brandy may be tried, with strong beef-tea. Should the urgency of the symptoms yield to the emetics, a milder treatment may be followed out. The following is a good mixture:—

Ipecacuanha Wine,	1 drachm.
Aromatic Spirit of Ammonia,	2 drachms.
Carbonate of Potash,	1 drachm.
Water,	8 ounces.

Two tablespoonfuls to be given every four hours. If the cough is troublesome, add a grain of acetate of morphine. The diet should be light and nourishing, and all exposure to cold must be carefully avoided. In children, acute bronchitis does not commonly produce such marked effects as in adults, although sometimes it is extremely rapid and fatal, allowing little time for the action of remedies, which

should be much the same as those above recommended, with proper regard, of course, to difference of age. If the child is unweaned, it must be allowed to suck very sparingly, if at all. The best plan is to give it milk from a spoon, or feeding-bottle, as the quantity can be thus better regulated. Great attention must be paid to the bowels, and also to the temperature of the air breathed by the little sufferer. A blister on the chest, about as big as a large copper cent, may be sometimes applied with advantage if the hot bran does not give the desired relief.

Winter coughs, catarrh, and asthma are very commonly but forms of chronic bronchitis. For the troublesome coughs which almost invariably attends confirmed bronchitis, and especially in the aged, opium is the most effectual remedy. The best form of administration is perhaps the compound tincture of camphor taken with ipecacuanha or antimonial wine,—say half a drachm of the former, with ten grains of either of the latter, in a little sugar and water or flaxseed-tea. If there are febrile symptoms, add fifteen minims of sweet spirits of nitre to each dose.

It is especially during the spring months, and when there is a prevalence of east wind, that bronchitis attacks young and old, often hurrying the former to a premature grave, and making the downward course of the latter more quick and painful. With aged people, in such cases, there is commonly a great accumulation of mucus in the bronchial tubes, which causes continued and violent coughing in the efforts to expel it, which efforts are often unsuccessful. Thus the respiration is impeded; the blood, for want of proper oxygenization, becomes unfit for the purposes of vitality, and death, often unexpectedly sudden, is the consequence. Such bronchitic patients must be carefully treated,—no lowering measures will do for them, but warm and generous diet; opium cannot safely be ventured on. Warm flannel next the skin, a genial atmosphere, inhalation of steam,—if medicated with horehound, or some demulcent plants, so much the better,—a couple of compound squill pills at night, and during the day a mixture, composed of camphor mixture, six ounces; tincture of squills, wine of ipecacuanha, and aromatic spirits of ammonia, each two drachms; with perhaps two drachms of tincture of hops. Take a tablespoonful every three or four hours.

DIPHTHERIA.

Diphtheria is a very malignant and fatal disease of the throat,

which was first specially observed and described by M. Bretonneau, of Tours, in France, where it prevailed as an epidemic in 1818, though it doubtless has existed in the world from the earliest times.

Symptoms.—It is characterized by a peculiar inflammation of the mucous membrane of the throat, or pharynx, accompanied by the production of a false membrane. At first this membrane appears in the form of a white spot on the pharynx or tonsils, from which it gradually extends forwards to the soft palate and into the nostrils, and backwards into the œsophagus, sometimes into the larynx, but seldom into the trachea, producing at length suffocation. It is usually accompanied by a fœtid discharge from the nose and mouth, and hæmorrhage frequently occurs. There is usually, also, a low and dangerous form of fever, with great depression of spirits and rapid decrease of the patient's strength, which is still further accelerated by his inability to take food. There is no form of the disease, however mild to appearance, that is not attended with danger, and it is sometimes fatal in thirty-six hours, but more frequently in from three to twelve days.

Treatment.—Medical men are by no means agreed as to the mode of treatment to be followed. It is generally agreed, however, that everything is to be done to support the strength of the patient, by stimulants, nutrients, and restoratives. On its first appearance, wine or brandy, in frequent doses according to the strength of the patient, should be given, with beef tea, eggs, &c. Quinine or iron is also recommended. Poultices or warm fomentations applied externally, and the inhalation of the vapor of hot water and vinegar, will afford some relief. The patient should be confined to bed, and the temperature should be about 68° Fahr., and kept constantly moist with steam from a boiling kettle. Opiates are frequently necessary to be given in order to procure sleep, and ice kept dissolving in the mouth is often a great comfort. Afterwards good nourishing food, change of air, and tonics, are necessary to complete recovery. There can be little doubt that this disease is owing, in some measure, to the neglect of sanitary measures; and it is generally believed to be both epidemic and contagious, though some medical men deny these statements.

ENLARGEMENT OR SWELLING OF THE UVULA.

The pendulous body which hangs down from the middle of the soft palate is subject to several kinds of enlargement, in which it

becomes both longer and more bulky than natural, or is simply elongated. Under these diseased conditions, it becomes troublesome in deglutition, as well as in speaking. It causes a disagreeable tickling at the root of the tongue, with an inclination to retch, and an irritating and annoying cough. When things have reached this pass, medicines are often of no avail, and the only resource is to remove a portion of the uvula, which must be done by a surgeon. Before, however, excision is resorted to, and indeed before the uvula increases so much as to render this necessary, astringent gargles and applications should be tried, such as the following:—White oak bark, one ounce; water, one pint; boil till reduced one quarter, then add alum, one scruple. Apply to the parts several times a day with a soft sponge.

HOARSENESS.

A disease of the air-passages.

Causes.—From colds, or breathing a damp or dusty atmosphere, or through exhaustion from protracted speaking, singing, &c.

Treatment.—Put into a teapot one part of pyroligneous acid to six parts of boiling water; introduce the spout of the teapot into the mouth, and inhale the vapor. Or, mix one teaspoonful of sweet spirit of nitre in a wineglassful of water. Take this two or three times a day.

INFLAMMATION OF THE LARYNX (*Laryngitis*).

Inflammation of the larynx is, more particularly, inflammation of the mucous membrane that covers the laryngeal cartilages, including the epiglottis.

Symptoms.—This disease is characterized by a high degree of fever; the pulse is frequent and hard, and the patient manifests a considerable degree of restlessness and anxiety; he likewise complains of sore throat; and among the earliest symptoms that bespeak danger is difficulty of swallowing, for which no adequate cause is visible in the fauces; and to this is presently added difficulty of breathing. The act of inspiration is protracted with wheezing, and the patient points to the Adam's apple as the seat of the disease. He speaks either hoarsely, or what is more common, all power of audible voice in the larynx is lost, and he speaks only by means of his lips and tongue, in a whisper. As the disorder advances, the patient's general distress increases. His countenance, from being

flushed, becomes pale or livid; his looks anxious and ghastly; he struggles for breath, and if he does not obtain timely relief, dies of strangulation. Its course is generally rapid, terminating fatally within the fifth day, and even, in some cases, within twelve hours.

Treatment.—In the treatment of this disease, active remedies require to be promptly had recourse to. If a blister is applied, it should be on the upper part of the sternum or chest, rather than on the front of the throat. Purgatives should also be administered, and warm fomentations applied to the throat. As the danger of this disease lies in its tendency to produce suffocation, wherever there is danger of this termination, tracheotomy should be had recourse to, and an artificial opening made, through which the operation of breathing may be carried on, till the parts of the larynx acquire their natural state. Nor should this operation be too long delayed.

INFLAMMATION OF THE TONSILS (*Tonsilitis*).

With enlarged tonsils, there is always, more or less, thickness of speech, and a great liability to sore throat or quinsy. Tonics and astringent gargles are required for such enlargement, and a long perseverance in the latter is necessary. The glands should be now and then brushed over with a solution of nitrate of silver, or rubbed with the stick itself; but this should be done very carefully, so as not to touch the surrounding parts. Should the enlargement be come prominent, it is best to have the tonsils cut by a surgeon; this is not a dangerous nor very painful operation. In ulcerated sore throats, the tonsils generally become impaired, and are very painful and even dangerous.

INFLAMMATION OF THE PHARYNX (*Pharyngitis*).

[*Clergyman's Sore Throat.*]

This is an inflammation of the back part of the throat, as seen when the mouth is stretched open. There is also an inflamed condition of the vocal cords, and other portions of the larynx.

Causes.—Over-exertion of the voice, inhaling impure air, exposure to cold winds when heated, will also produce it.

Symptoms.—Spitting, hoarseness, coughing, sometimes loss of voice, difficulty of swallowing, &c.

Treatment.—Avoid the night air, and loud talking or singing in

the open air when walking. Let the diet be nourishing, but abstain from all spicy and acid foods that irritate the mucous membrane. Spirituous liquors, strong beer, and other heating liquids, must be entirely avoided. The local treatment consists of applying solutions of nitrate of silver, or alum, or carbolic acid, to the diseased parts, by means of a sponge or brush.

INFLUENZA.

It has lately been very much the fashion to call any kind of cold which is accompanied by catarrhal symptoms, Influenza; but this, in nine cases out of ten, is a misnomer. The true disease seldom occurs, except as an epidemic, attacking many persons at once. It comes on quite suddenly.

Symptoms.—Its symptoms are those of a general fever. There is great prostration of strength, generally showing loss of appetite, heat and thirst, cough and difficulty of breathing, owing to the air valves and bronchial passages being clogged with mucus; there is also running at the nose and eyes, weight across the brow with throbbing pain, and great depression of spirits. The febrile symptoms do not commonly last more than four or five days, sometimes but one or two, but the cough generally remains for a considerable time, varying according to circumstances, such as exposure to cold or wet, predisposition to cough, &c.

Treatment.—With the strong and healthy this is not a dangerous disease, but aged or weakly persons are frequently carried off by it. In the former case but little medical treatment is required. Keep the patient in bed, and let the temperature of the room be warm and equable; open the bowels with a gentle aperient, such as rhubarb and magnesia, or senna mixture, and follow this up with weak wine-whey, or some warm diluent drink, in a pint of which a grain of tartar emetic and a drachm of nitrate of potash has been dissolved; give a wineglassful of this about every four hours. It is not generally safe to practice much depletion; but where there is great difficulty of breathing, and irritation of the throat, a few leeches may be applied just above the breast bone, in the hollow of the neck. Stimulating liniments may also be applied to the chest, and mustard poultices, but blisters are scarcely to be recommended. Hot fomentations may also be useful, and medicated inhalations, such as a scruple of powdered hemlock or henbane, sprinkled in the boiling water, from which the steam ascends into the throat. The fresh

leaves of the above plants may be used, or a drachm of the tincture, if these cannot be procured. When the fever is subdued, if there is still cough and restlessness, a five-grain Dover's powder may be given at bedtime, or one-eighth of a grain of acetate of morphine, with a five-grain squill pill, for the cough if required. If there is great feebleness, tonics must be administered; infusion of calumba, cascarilla, or gentian, with carbonate of ammonia; one ounce of the former with five grains of the latter, three times a day, with a mildly nutritious diet,—broths, arrowroot, sago, and a small quantity of wine. Such is an outline of the course to be pursued in most cases of influenza which really require medical treatment at all; generally warmth, rest, and good nursing, will do all the business. Should the cough be very obstinate, and resist all efforts to remove it, change of air will generally prove effectual, and this is beneficial in most cases.

MUMPS (*Parotitis*).

This disease, which is a contagious epidemic, consists of inflammation of the salivary or parotid glands, which are situated on each side of the lower jaw.

Symptoms.—It commences with slight febrile symptoms of a general character. Very soon there is redness and swelling at the angle of the jaw, which gradually extends to the face and neck near to the glands. These sometimes become so large as to hang down a considerable distance, like two bags.

Treatment.—But little medical treatment is required for this disease when at its height. The patient, from sheer inability to move the jaw, must live chiefly on slops; and it is well for him to be kept low, unless very delicate, in which case a little good broth or beef tea, should be given. If there is much pain, the throat should have hot fomentations applied; and, in very severe cases, two or three leeches. Mumps is not a dangerous disorder, unless the inflammation should be turned inwards, in which case it will probably affect the brain or testicles; or, in the female, the breasts. Should the swellings suddenly disappear, and thereby aggravate the symptoms of fever, the following liniment must be applied:—

Camphorated Spirits,	1 ounce.
Solution of Sub-carbonate of Ammonia,	2 drachms.
Tincture of Cantharides,	½ drachm.

Mix, and rub in until the swellings re-appear. Take also, internally, nitrate of potass, one drachm; tartarised antimony, one and a half grain. Mix, and divide into six powders, one of which is to be taken every four hours.

STIFF NECK.

A complaint brought on by sitting or sleeping in a draught, at an open window, &c.

Treatment.—Rub the neck well with hartshorn and sweet oil, two or three times a day; and wear round the neck a piece of new flannel, moistened with the hartshorn and oil.

SORE THROAT.

This is commonly a symptom of inflammatory fever, and is often the result of a simple cold. Some persons are peculiarly liable to it, and experience great difficulty of swallowing from relaxed uvula. Sometimes in sore throat there is simply inflammation of the mucous membrane; and when this is the case it will probably pass away in a day or two, with a little careful nursing and aperient medicines. Should it extend into the air passages, causing cough and catarrhal symptoms, it becomes a more serious business, and medical advice should at once be sought. In the meantime, a saltpetre gargle should be used, or sal prunella balls, one being put into the mouth occasionally and allowed to dissolve. Hot bran poultices may also be placed about the throat, which, at a later stage, may be rubbed with a liniment of oil and hartshorn.

There is an erysipelatous form of sore throat which is highly dangerous, and requires very active treatment. A strong gargle of lunar caustic must be used in this case, or the inflamed part must be pencilled with the caustic in the stick. If it extends to the larynx and air passages this frequently proves fatal. This is a distinct disease from diphtheria.

QUINSY.

An inflammation of the throat, principally occupying the glands. This kind of inflammatory sore throat generally commences with cold chills, and other febrile symptoms. There is fullness, heat, and dryness of the throat, with a hoarse voice, difficulty of swallowing, and shooting pains towards the ear. When examined, the

throat is found of a florid red color, deeper over the tonsils, which are swollen and covered with mucus. As the disease progresses, the tonsils become more and more swollen, the swallowing becomes more painful and difficult, until liquids return through the nose, and the viscid saliva is discharged from the mouth. Very commonly the fever increases also, and there is acute pain of the back and limbs.

Causes.—Exposure to cold, wearing damp clothes, sitting in wet rooms, getting wet feet, coming out suddenly of a crowded and heated room into the open and cold air. It may also be brought on by violent exertion of the voice, and by suppressed evacuations.

Treatment.—When the case is not severe, it may be treated, in the early stages, like catarrh; but when it is, more active measures will be required. An emetic, followed by a strong purgative; a blister outside the throat, and warm bran or linseed poultices; a cooling regimen, with acid drinks, or pieces of rough ice put into the mouth and allowed to dissolve; leeches at the side of the throat if it swells much; inhaling the steam of hot water through a teapot or an inverted funnel; and the continuation, every four hours or so, of a saline aperient. These will be the proper measures to adopt. When the abscess has burst, and the inflammatory symptoms have subsided, a generous diet will be necessary, with tonic medicines. If the tonsils continue swollen, they should be rubbed outside twice a day with stimulating liniments. Turpentine and opodeldock, equal quantities, will be as good as any; and the throat gargled with salt and water, a teaspoonful of the former put into a tumbler full of the latter.

When there is chronic soreness of the throat, with hoarseness and cough, there is commonly also a relaxed and elongated uvula, which closes the passage when the patient lies down, and causes a sensation of choking. In this case, a gargle made with salt and Cayenne pepper (about a tablespoonful of the former and a teaspoonful of the latter, in a pint of boiling water) should be tried; the throat should be kept uncovered, and sponged with vinegar twice a day. If these means are unsuccessful, it may be necessary to have part of the uvula cut off. This must be done by a surgeon. Also, the application of caustic must sometimes be made when the throat has a granulated appearance.

ULCERATED, OR PUTRID SORE THROAT.

This sort of sore throat shows itself by white specks, covering ulcers, appearing in the throat, together with great debility, and an eruption on the skin.

Causes.—Contagion (infection); from a humid state of the atmosphere, it becomes epidemical, and will sometimes rage through families, villages, or towns; and is also produced by similar causes to typhus, or malignant fevers, to which it seems akin in its nature.

Symptoms.—It commences with cold shiverings, anxiety, nausea, and vomiting, succeeded by heat, thirst, restlessness, and debility; also, much oppression at the chest; the face looks flushed, the eyes are red, a stiffness is perceived in the neck, with a humid breathing, hoarseness of the voice, and soreness in the throat. After a short time the breath becomes offensive, the tongue is covered with a thick brown fur, and the inside of the lips is beset with vesicles, containing an acrid matter; upon inspection of the throat, a number of sloughs, between a light ash and a dark brown color, are to be seen. From the first attack of the complaint, there is a considerable degree of fever, with a small irregular pulse, and the fever increases towards the evening. About the second or third day, large patches make their appearance about the face and neck, which by degrees become dispersed over every part of the body. As the sloughs in the throat spread, they generally become of a darker color, and the whole throat is soon covered with thick sloughs, which, when they fall off, discover deep-seated ulcers.

Treatment.—The bowels should be opened with a dose of Rochelle salts or sulphate of magnesia. To cleanse the throat, use the following gargle:—

Honey of Roses,	1 ounce.
Tincture of Myrrh,	½ ounce.
Vinegar,	1 ounce.
Decoction of Barley,	10 ounces.

Mix, and use frequently. Or the following:—

Muriatic Acid,	1 drachm.
Compound Tincture of Cinnamon,	½ ounce.
Tincture of Myrrh,	1 ounce.
Decoction of Peruvian Bark,	6 ounces.

Mix, and use frequently. Breathe the steam of hot vinegar and water into the throat.

The following is a good astringent draught:—

Aromatic Confection,	1 drachm.
Tincture of Catechu,	1 drachm.
Laudanum,	30 drops.
Chalk Mixture,	2 ounces.
Cinnamon Water,	2½ ounces.

Mix. Take two tablespoonfuls every four hours. Shake well always before taking. Sometimes bleeding from the mouth, nose, or ears, takes place in the latter stages of the disease; and, becoming alarming, use the following as a wash:—

Sulphate of Copper,	1½ drachms.
Alum,	½ drachm.
Rectified Spirit of Wine,	1 ounce.
Pure Water,	7 ounces.

Mix, and apply internally with a tent, or on linen cloths. The diet must be light and nourishing—tapioca, sago, rice, and the like; the drinks must be acidulated; free air, but not cold; the room sprinkled with vinegar, and generally as is laid in acute or typhus fever, use the following in the room, as a purifying anti-infectious gas:—

Take a pound of common salt, put it into an earthen dish, occasionally pour a tablespoonful of sulphuric acid (oil of vitriol); stir up with a stick, avoid breathing over it when the fumes are rising. Do this four or six times a day, whenever infectious diseases are raging. It is a great preventive.

Herbal, or Eclectic Treatment for Throat Diseases.

For putrid sore throat, at its early stage, give an emetic, and follow by a cathartic if the bowels are costive. A mixture composed as follows has been found very beneficial:—

Take a half pint of fresh brewers' yeast, and mix with a half pint of water; add sufficient brown sugar to flavor. Dose, one teaspoonful every two hours. Good results have frequently followed a gargle made of yeast and milk, or of sage and vinegar. A small quantity may be swallowed with benefit. Or use the following:—

Sumac Berries,	1 ounce.
White Oak Bark,	1 ounce.
Red Elm Bark,	1½ ounces.
Blackberry Root,	1½ ounces.

Make a decoction with sufficient water, and to each pint add a piece of alum about the size of a walnut; when cool, strain and use as a gargle.

What has been said under the head of putrid sore throat, will be found useful in the treatment of quinsy. When there is a tendency to this disease, the throat should be sponged every morning with cold salt water. Local applications are of great value. Great relief is experienced by inhaling the steam of hot vinegar or water from a teapot. Gargles made of port wine or brandy and water are very useful in restoring the tone of the fibres, when relaxed from distention.

If the attack increases in severity, use a decoction of wormwood, hops, and catnip, with equal parts of soft water and vinegar; boil for two hours. Put the preparation in a large pitcher, and place a funnel over it, by which means let the patient inhale the steam for fifteen or twenty minutes, every two hours.

The following liniment is very useful:—

Sassafras Oil,	½ ounce.
Olive Oil,	½ ounce.
Spirits of Hartshorn,	½ ounce.
Gum Camphor,	2 drachms.

Mix; warm, and bathe the throat as long as the patient can bear it, several times a day, after which bind a piece of flannel round the neck, soaking the feet in warm water every night, in quinsy.

In the treatment of mumps, it is seldom that medicine of any kind is needed. Keep the patient in a warm bed, and promote perspiration by the free use of balm tea. Bathe the feet in a tepid bath, and keep the bowels open. If the swelling greatly increases, use a poultice of wild indigo and slippery elm. If the testicles swell, bathe them with sweet oil and camphor. If the pain still continues, use the following liniment:—

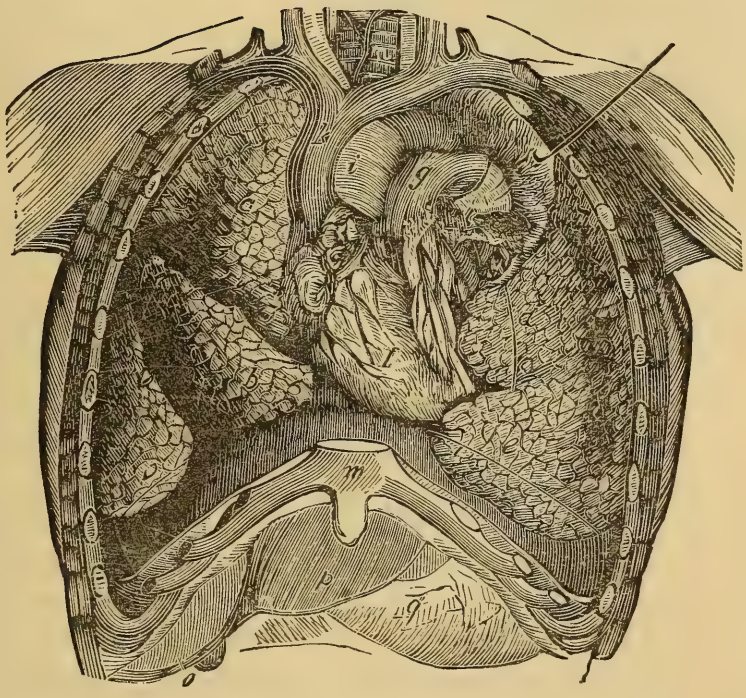
Scraped Castile Soap,	1 drachm.
Sassafras Oil,	½ ounce.
Sweet Oil,	1 ounce.
Camphor,	3 drachms.

Mix, and apply warm three times a day.

THE LUNGS.

ANATOMY AND FUNCTIONS.

Fig. 51.



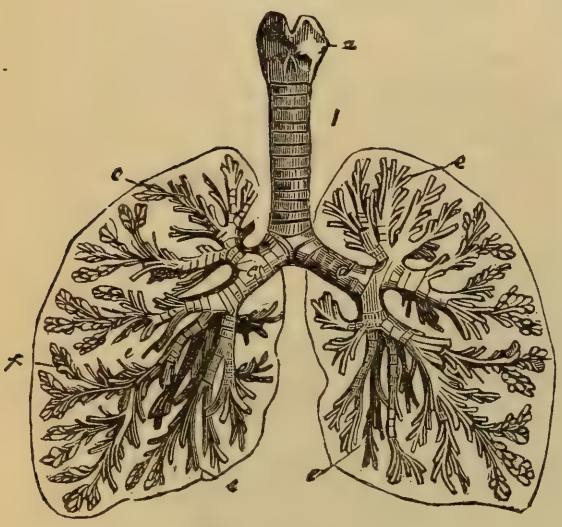
Front View of the Cavity of the Chest.

a, *b*, *c*, upper, lower, and middle lobe of the right lung; *d*, *e*, upper and lower lobe of the left lung; *f*, heart; *g*, pulmonary artery,—this artery rises from the right ventricle of the heart, and divides into two branches, one going to each lung; *i*, the aorta, or large artery of the heart; *k*, vena cava; *l*, diaphragm; *m*, chest bone; *n*, windpipe; *o*, *p*, right and left lobe of the liver; *q*, stomach.

The Lungs are two vesicular organs situated in the thorax or chest, the cavity of which, together with the heart and larger blood-vessels, they nearly fill up; so that when the walls of this cavity are compressed, the air is forced out of the minute air-cells of which

the lungs are composed, into the several elastic membranes (the bronchi) connected with them. These bronchial passages afterwards unite, and form one tube, the trachea or windpipe, through which the air passes upwards and downwards in the act of inspiration and expiration, or breathing, as it is popularly called. A reference to Fig. 51 will enable our readers to understand this more clearly. Here it will be seen how each division of the lungs occupies its own side of the chest; the left is the smallest of the two, because the heart, whose place is between the lungs, takes up more room on that side than the other. The windpipe, or trachea, at the top has the larynx, or organ of voice; while the lower extremity divides into two branches or bronchi, one for each lung, on entering which it divides and subdivides into extremely minute tubes, which terminate in the air-cells, small membraneous cavities, on the walls of which the blood circulates in a network of veins, in such a way that it is brought into immediate connection with the atmospheric air, which is drawn in by each inspiration, and so obtains its due supply of oxygen; that, and other gases of which the air is composed, making its way through the extremely thin membrane which forms the air-cells: thus noxious, as well as healthful vapors, or gases, are introduced into the circulation, and men are poisoned by breathing, as well as by eating and drinking, deleterious substances. If we examine the structure of the lungs, we find that it is porous like a sponge; when, by the action of certain muscles, the capacity of the chest is increased, the air rushes in to fill the vacuum, and expansion of the lungs takes place; then, the muscular movement ceasing, the ribs, by their weight and elasticity, contract and force out the air, and this alternate expansion and contraction constitutes breathing, in the act of which we see the chest rise and fall. The

Fig. 52.



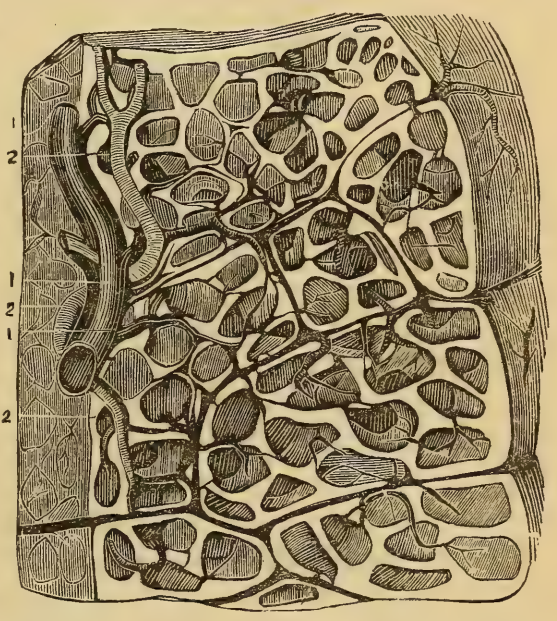
The Lungs.

a, the larynx; *b*, the windpipe; *c*, *d*, right and left branches of the windpipe; *e*, *e*, the bronchial tubes; *f*, *f*, pulmonary vesicles.

tubes, air cells, and blood-vessels of the lungs, are held together by what is called cellular tissue, and the whole are enveloped in a membrane which covers their surface and also the under surface of the ribs, for which latter purpose it is reflected back. This membrane is called the *pleura*.

The action of the lungs may be forced or increased by an exercise of the will. In this case other muscles than those usually employed are called into play; hence the stoop in the shoulders often observed in asthamatic people and others with whom breathing is difficult. Mental emotion, and increased bodily exertion, will also cause an accelerated action of the lungs, as will those inflammatory and other diseases which stimulate arterial action. From fifteen to twenty-two is the average number of respirations in a minute, under common circumstances; but this number may, and often is, very greatly increased by excitement, exercise, or disease.

Fig. 53.



Magnified View of a Section of the Lung.

Showing the arrangement of some of the lobules, the communication of the air-cells in one lobule, and their separation from those of the adjoining lobule. The ramifications of the blood-vessels in the texture of the lung, and their course through the air-cells are also seen. 1, 1, branches of the pulmonary veins; 2, 2, branches of the pulmonary artery.

The average weight of the lungs in a healthy condition is about forty ounces. They are, as we have seen, of a conical shape, embracing the heart between them, being internally concave to receive this organ, and externally conxex to suit the concavity of the chest. In their narrow part upward they extend a little above the fifth rib, their broad and slightly concave bases resting upon the diaphragm, and extending further down behind than before. Their color is a pinkish gray, mottled with black,—their shape we have already explained. They hang free in the chest, except where they are attached to the spine, or rather to the *mediastinum*, by the pulmonary arteries and veins, and by the bronchial tubes on either side. The

areola, or cellular tissue, which connects together the arteries, veins, or cells, &c., is called the *parenchyma* of the lungs, and constitutes the second distinct tissue, of which they are composed,—the first, or outer, being the pleura, and the third, or inner, the mucous lining of the air passages, or cells into which the air enters when we breathe. So great is their number that they have been calculated to amount to 170,000,000, forming a surface thirty times greater than the human body. Every one of these cells is provided with a network of blood-vessels, by means of which the blood is brought into immediate contact with the air over every portion of their surface. When this great amount is taken into consideration, we shall at once feel how necessary it is to supply pure air to the lungs with every breath we breathe. Here then we have a beautiful and complicated piece of mechanism, in which the purification of the blood is effected, and the power of which, of producing at will a current of air through the lungs, makes the utterance of vocal sounds easy.

The lungs of an infant before birth are dark red, and contracted into a small space, within the cavity of the chest. They are firm, and specifically heavier than water, in which therefore they sink, whether entire or cut into pieces. They also give out little or no blood, and no air-bubbles arise from them. This, therefore, is considered a good test whether a newly-born infant found dead, under suspicious circumstances, was really born so. If it has ever breathed the lungs will have become inflated, so as to float on water; they will then be of a pale-red color, and appear of a loose spongy texture; having expanded, too, so as to fill the cavity of the chest, and cover the heart, as we see them in the diagram of that organ above referred to.

The diseases to which the lungs are mostly liable, are all, in their first stages, of an inflammatory character; and it is important to ascertain, as soon as they are attacked, in which of the various tissues, or other structures, the mischief resides. The state of the lungs can generally be ascertained with tolerable certainty by means of auscultation: the passage of air into, and through them, giving rise to certain definite sounds well understood by the practised ear, applied closely to the outside of the chest, either with or without a stethoscope. When the lungs are not affected, these sounds vary but slightly in different individuals; so that any deviation from their ordinary and natural tone, or compass, is easily detected as an indi-

cation of disease, which sometimes renders the lung so solid that the air cannot penetrate its tissues, and sometimes fills the cavity which contains it with water. In either case, percussion will but make a dull, heavy sound. Then the power of conducting sound varies according to the condition of the structure, so that an application from without is sure to produce such a response from within as gives the skilled physician all the information which he requires.

DISEASES OF THE LUNGS.

ASTHMA.

This is a disease of the lungs, whose main characteristic is laborious breathing, which comes in paroxysms, and is accompanied by a wheezing noise. Humid asthma is that in which the attack terminates with expectoration; when it does not this it is called dry asthma. Persons so afflicted have generally disease of the heart or lungs. When they have not, it is called spasmodic asthma, and to this persons are sometimes subject, who, when the attack is past, may appear quite vigorous and healthy.

Causes.—The causes of asthma are hereditary predisposition; dwelling in a cold or moist atmosphere, or being subject to sudden changes of temperature; inward gout, intense study, or great mental anxiety; suppression of accustomed evacuations; irritation of the air-cells and lungs by atmospheric impurities; irritation of the stomach, uterus, or other viscera.

Symptoms.—The attack commonly occurs in the night, the patient having gone to bed in a listless, drowsy state, with a troublesome cough, oppression at the chest, and symptoms of flatulency; towards midnight probably the breathing becomes more labored, the wheezing sound louder, and the patient is obliged to assume an erect posture to prevent suffocation. Sometimes he starts out of bed, and rushes to the window for air, or he sits with his body bent forward, his arms resting on his knees, with a flushed or livid face, if it be not deadly pale, gasping and struggling for breath, in a condition painful to behold; the pulse is weak and intermittent, with palpitation of the heart; sometimes there is vomiting, with involuntary emission of the urine, which is of a pale color, and relaxed bowels. The attack will probably last for a couple of hours or more, when the severe symptoms will gradually remit, with an expectoration of frothy mucus, and a tranquil sleep follows. For some days there

will be felt a tightness of the chest, and the slightest exertion brings on a difficulty of breathing; there will be slighter paroxysms, and, after a longer or shorter period, another severe one.

Treatment.—The objects to be attained in this are, first, to moderate the violence of the paroxysms; second, to prevent its recurrence. Gentle aperients should be administered, and anti-spasmodic mixtures and injections; a blister on the chest will often afford much relief. The following is a good formula for the mixture:—

Tincture of Assafœtida,	2 drachms.
Sulphuric Ether,	2 drachms.
Tincture of Opium,	1 drachm.
Peppermint Water,	6 ounces.

Mix, and take a tablespoonful every hour. If the expectoration is scanty and difficult, add to this—

Tincture of Squills,	2 drachms.
Wine of Tartarized Antimony,	1 drachm.

Or make the vehicle, instead of peppermint water, mixture of ammoniacum, that is about two drachms of the gum rubbed down with six ounces of water. The best aperient is castor oil, given in peppermint, or weak brandy and water. Where there is reason to suppose the stomach is overloaded, an emetic, composed of one grain of tartarized antimony, and one scruple of powder of ipecacuanha, in half a tumbler of warm water, should be given. The enema may consist of two drachms of gum assafœtida to a pint of thin gruel. Tincture of lobelia inflata is good in obstinate cases, dose one drachm; and also tincture of nicotiana, or tobacco, in nauseating doses. Inhaling the fumes of the leaves of this plant through a pipe, and also of stramonium, is sometimes of service, and the good effect of either will be assisted by a cup of hot coffee, putting the feet in warm water, or using the warm bath.

To prevent the return of a paroxysm of asthma, avoid the exciting causes, keep the bowels gently open with rhubarb or some other mild aperient, and strengthen the tone of the stomach by bitter infusions, such as camomile or gentian. If there is tightness of the chest, put on a blister, and take an emetic now and then to clear out the phlegm from the bronchial passages. Take at bedtime ten grains of Dover's powder, or the same of compound squill pill, with

a little warm gruel. For the rest, take light and nourishing diet, avoiding everything difficult of digestion; wear warm clothing—flannel next the skin; have regular and moderate exercise; change of climate if possible, should the situation occupied be damp, or bleak and exposed. Do not indulge in sensual or intemperate habits.

Herbal, or Eclectic Treatment for Asthma.

When the symptoms appear, at once place the feet in warm water, and take a decoction of catnip or pennyroyal, to produce a gentle perspiration. If the attack still continues, take a tablespoonful of the tincture of lobelia in a cup of warm tea, every half hour, The following remedy has produced marked results in severe cases. Take a half ounce of well-bruised seneca snakeroot; immerse in one pint of water, and boil over a slow fire till reduced to a half pint. Dose, a tablespoonful every ten or fifteen minutes. A teaspoonful of mustard-seed, taken in tea or soup morning and evening, has cured many severe cases. Damp houses and damp air must be carefully avoided. Let the food be light and nutritious; sleep on a hard mattress; and frequently take the country air.

BLEEDING FROM THE LUNGS (*Hæmoptysis*).

This denotes in general the spitting of blood, and is generally used by pathologists to signify the expectoration of blood from the lungs and air-tubes. It is important to ascertain the source of the blood which escapes from the mouth, and, if determined to be from the lungs, to ascertain whether it is symptomatic of disease of these organs, or merely vicarious in its character. It is not so much dangerous in itself as a indication of some other dangerous disease, being most frequently connected with tubercular consumption.

Causes.—Bleeding from the lungs may occur without organic disease, in plethoric and robust individuals living a life of excitement and excess, and in nervous, irritable individuals, weakened by mental or bodily fatigue, and leading sedentary lives. It is often hereditary, and may be brought on by violent muscular effort, paroxysms of cough, blows or pressure on the chest, inspiration of irritating vapors, or of rarefied air on high mountains. The blood mry be exuded from the tracheal or bronchial membranes, or it may proceed from capillaries communicating with the air-passages in any part of their extent. The amount varies from a drachm or two to

as many pints at a time, and is generally florid, and more or less mixed with air, differing from the dark, coagulated blood which comes from the stomach.

Symptoms.—An attack is frequently announced by a feeling of heat and oppression in the chest behind the sternum, followed by a cough, which brings up the blood. When the quantity is very great, it pours forth without a cough, and almost by an act of vomiting, with considerable spasmodic effort.

Treatment.—Elevating the breast and shoulders, admitting plenty of fresh air, with spare diet, and perfect quiet, are among the most useful measures to be adopted. The chest should be sponged with vinegar and cold water, and a dessert-spoonful of the former in half a wineglassful of the latter will be a useful accompaniment to any other medicines which may be thought necessary. The oil of turpentine, ten to thirty drops in a glass of water; or gallic acid, in doses of ten to fifteen grains, every three or four hours, have been found of great value. Cold liquids, and the sucking of pieces of ice, will be of service. Nauseating medicines, as tartar emetic and ipecacuanha, are also frequently employed. A teaspoonful of common salt, taken frequently, is an excellent popular remedy. In all cases calmness of mind, rest, silence, erect position, cool air, and freeness of the bowels, should be enjoined. When the attack proceeds from congestion, bloodletting is recommended in certain cases. If cough be present, it should be allayed by narcotics. After the attack, astringent tonics, as iron and quinine, may be given; and the return of the bleeding is to be guarded against by avoiding the exciting causes, and attending to the general health.

COUGH.

Cough is a convulsive effort of the lungs to get relief of phlegm or other matter. It may be a symptom of bronchitis, or catarrh, or croup, or influenza, or laryngitis, or phthisis, or pleurisy, or pneumonia, or relaxed uvula, or of hooping-cough.

We can here lay down but a few general principles with regard to the treatment of simple cough, without reference to the peculiar disease of which it may be symptomatic; and first let us observe, that it may be either what is properly, as well as medically termed dry or moist. In the former case, opium and its preparations are advisable; in the latter they should not be used. The irritation will be best allayed by henbane or hemlock, either the tincture or

extract, with demulcents, as barley-water, flaxseed-tea, &c., and liquorice, either the root boiled or extract. It is well also to add from five to ten drops of ipecacuanha wine to each dose. Inhalation also of the steam from boiling water will generally be found beneficial; and especially if some medicinal herb, such as horehound or coltsfoot, be infused in it. In moist coughs, there should not be so much fluid taken, and the use of demulcents must be somewhat restricted. Opiates may be administered, but not too freely, either separately or in cough mixtures. Paregoric elixir, in which the opium is combined with benzoic acid and oil of aniseed (expectorants), and camphor (anti-spasmodic), is perhaps the best form of administration. A teaspoonful in a glass of water, generally allays the irritation, and the frequent desire to cough which arises from it. In cases where there is difficulty of expectoration, some such mixture as this should be taken:—

Compound Tincture of Camphor,	4 drachms.
Ipecacuanha Wine,	? drachms.
Oxymel of Squills,	2 drachms.
Mucilage of Acacia,	1 ounce.
Water,	4 ounces.

Mix, and take a tablespoonful when the cough is troublesome. For old people, two drachms of tincture of benzoin, commonly called friar's balsam, may be added to the above; and if there should be much fever, two drachms of sweet spirits of nitre. For all kinds of cough, counter irritants should be applied, such as blisters and warm plasters, rubbing in of stimulant ointments on the chest and between the shoulders; those parts also should be well protected by flannels next the skin. For coughs which are more particularly troublesome by night, it is best to give the opium, henbane, or hemlock, as the case may be, at bedtime, in the shape of a pill; of the extracts of either of the latter, five grains may be given; of the first, one or two grains of the gum, or one-quarter of a grain of morphine. A long experience of their efficacy among a large number of dispensary patients enables the author to recommend with confidence the following pills:—

Compound Squill Pill,	1 drachm.
Ipecacuanha Powder,	½ drachm.
Extract of Hyoscyamus,	½ drachm.

Mix, and make into twenty-four pills, and take one or two on going to rest.

Coughs should never be neglected, they are so frequently symptomatic of organic disease. If they do not yield to simple remedies, let medical advice be sought, whether the patient be old or young.

CONSUMPTION.

Phthisis, or consumption, is a disease which, unfortunately, is but too prevalent and fatal in this country, as in most others. It spares neither age nor sex, and its attacks, at first so insidious as almost to escape notice, but too frequently lead to a fatal issue. It is the result of the formation and development of tubercles in the lungs. These first appear in the form of small, gray, semi-transparent granulations, which gradually enlarge and become opaque, and after a time empty themselves into the bronchial tubes, and thus the substance of the lung is gradually destroyed.

Causes.—The causes of this disease are divided into remote and exciting. Of the former, the most important is hereditary predisposition. It is not, however, an actual cause of the disease; and hence there are many cases in which the children of consumptive parents do not fall a prey to this disease; but it renders those who are in that condition much more liable to be affected by the exciting causes. Whatever weakens the strength of the system, or interferes with the oxygenation of the blood, tends to the production of this disease. Hence living in bad air, insufficient and unwholesome food, and sedentary pursuits, tend to it. Among the more exciting causes are exposure to cold or damp, especially after the body has been heated, intemperance of any kind, profuse evacuations, and exposure to the reception of dust into the lungs, as in the case of certain artificers, needle-pointers, stonecutters, and the like.

Symptoms.—The earliest symptom of consumption that usually manifests itself is a short, dry cough, exciting no particular attention, being attributed to a slight cold. It, however, continues, and after a time increases in frequency. The breathing is more easily hurried by bodily motion, and the pulse becomes more frequent, particularly after meals and towards evening. Towards evening there is also frequently experienced a slight degree of chilliness, followed by heat and nocturnal perspirations. The patient becomes languid and indolent, and gradually loses strength. After a time the cough becomes more frequent, and is particularly troublesome during the night, accompanied by an expectoration of a clear, frothy

substance, which afterwards becomes more copious, viscid, and opaque, and is most considerable in the morning; the *sputa* are often tinged with blood; or hæmoptysis occurs in a more marked form, and to a greater extent. As the disease advances, the breathing and pulse become more hurried; the fever is greater, and the perspirations more regular and profuse. The emaciation and weakness go on increasing; a pain is felt in some part of the thorax, which is increased by coughing, and sometimes becomes so acute as to prevent the patient from lying on the affected side. All the symptoms increase towards evening: the face is flushed; the palms of the hands and soles of the feet are affected with a burning heat; the feet and ankles begin to swell; and in the last stage of consumption there is nearly always profuse diarrhœa. The emaciation is extreme; the countenance assumes a cadaverous appearance, the cheeks are prominent, the eyes hollow and languid. Usually the appetite remains entire till the end, and the patient flatters himself with the hope of a speedy recovery, often vainly forming distant projects of interest or amusement, when death puts a period to his existence. Tubercular deposits are also usually found in other organs of the body: the liver is enlarged and changes in appearance, and ulcerations occur in the intestines, the larynx, and trachea. These are so frequent and uniform as to lead to the belief that they form part of the disease.

Treatment.—It is of the utmost importance to be able to meet and counteract the earliest approach of this disease. The constitutions that are most liable to its attack are generally characterized either by a fair, delicate, rosy complexion, fair hair, clear skin, and great sensibility, or by dark complexion, large features, thick and sallow skin, and heavy general expression. The development of the disease is preceded by a peculiar form of indigestion, known as "strumous dyspepsia." It is specially characterized by a dislike of fatty food, sometimes also of sugar and alcohol, and is accompanied with heartburn and acid eructations after taking food. Unlike inflammation, tubercles almost invariably commence at the apex of the lungs, and it is here that they are usually most advanced. It is here, then, that the skillful physician, by means of auscultation and percussion, is able to detect the first direct symptoms of the incipient disease. The treatment of this disease is of two kinds,—the one directed to strengthening the system for its prevention in those predisposed to it, or overcoming it in its incipient stages; the other

to arresting its progress after the tubercles have manifested themselves. The former class comprises a proper attention to the digestive organs, with wholesome diet, exercise in the open air, regular habits, attention to the skin, and, if necessary, change of air. The diet should be nutritious, but not stimulant, and the exercise not violent or too prolonged. Sea-voyages, or residence at the seaside, are generally found to be very beneficial; and, as a general rule, those places that are least subject to variations of temperature are recommended. The practice, however, of sending patients in the last stage of consumption away from home—to Minnesota, Florida, or elsewhere—cannot be too strongly reprobated. Of the more directly curative remedies unquestionably the most valuable is cod-liver oil. It should be taken in small quantities at first, probably a teaspoonful three times a day, during or immediately after meals; and the effect is greatly to improve the appearance of the patient, and to counteract the progress of the disease. If taken early, the tuberculous deposit may be arrested, and the patient restored to a state of health; and, even where this is not the case, the progress of the disease will at least be retarded. Tonic medicines, such as bark, sarsaparilla, iron, and iodine, are also very beneficial in the treatment of phthisis; at least in those cases where inflammation or much febrile excitement does not exist. Where inflammation already exists, it may be subdued by counter-irritants to the upper parts of the chest. These are the general remedies to be employed; the more prominent special features of the disease require particular medicines. One of the most distressing and harassing of these is the cough, which may be alleviated by the application of sinapisms or stimulating plasters to the chest, or by the internal use of mucilaginous mixtures, squills, conium, opium, ether, &c. The night perspirations, when very copious, are best checked by the use of mineral acids, as sulphuric acid given with quinine, or nitric acid in a decoction of sarsaparilla. Diarrhœa commonly subsides by a strict regulation of the diet, and the avoidance of all stimulating food and medicine; otherwise small doses of chalk and opium, or rhubarb and opium, may be administered. When the pulse is very frequent and the palpitation distressing, digitalis may be used. The duration of this disease depends upon a great variety of circumstances, and varies from a few months up to four, five, or more years; the average, however, may be taken at about two years; but many of the cases terminate fatally between the fourth and ninth

month. The question as to whether consumption be contagious has often been discussed, and medical men are by no means unanimous on the subject. The majority are probably in favor of its being non-contagious; though there are not wanting weight and numbers on the other side, to which, indeed, the present writer believes that he has had evidence for adhering. At all events, no one should be allowed to sleep with a consumptive patient after the disease has fully manifested itself.

Herbal, or Eclectic Treatment.

Abundance of fresh air; light, nutritious food, and correct personal habits, are the best remedies to rely on. All others will be useless if these matters are neglected. There can be no substitute for air and exercise. Let the exercise be gentle, so as not to cause fatigue, and take special care after exercising not to get cool too quick by standing still or sitting in a draught of cold air, open window, or cold room.

The cold or tepid bath should be used three or four times a week. Inhaling the fumes of tar made warm in a teapot is very useful. It will ease the violence of the cough, and produce a free discharge of the mucous matter. For night sweats, take sulphuric acid and nitric acid, of each one drachm; mix in a cup of water; dose, a teaspoonful in a pint of sage tea. During the day, strong chamomile tea is very useful; as is a decoction of common polypody and liverwort, drank freely during the day.

A tablespoonful each of tar and honey beat up with the yolk of an egg and mixed with milk, and taken once or twice a day, is very good.

For females, especially when the menses are stopped, a wineglassful of decoction of elecampane once a day, has been found very useful. The diarrhœa may be checked by infusion of blackberry root.

ENLARGEMENT OF THE AIR-CELLS (*Emphysema*).

Symptoms.—Shortness of breath, often very severe, especially after exercise, difficulty of breathing, palpitation of the heart, coldness of the extremities, and a livid color in the face and lips, a slight cough, and scanty expectoration.

Treatment.—The treatment will be to afford relief when the paroxysms are on, by means of opiates and anti-spasmodics, such as the following:—

Laudanum,	1 drachm.
Sulphuric Ether,	2 drachms.
Camphor Mixture,	4 ounces.

A fourth part to be given every three hours until relief is afforded. The patient should not lie, but sit with the shoulders raised, and have plenty of fresh air. If the bowels are in a state likely to produce flatulency, carminative aperients should be administered.

HAY-ASTHMA.

Hay-asthma, hay-fever, and summer bronchitis, is a disease which occurs about the time of the hay harvest, and appears to be caused by the pollen of some wild plants getting into and inflaming the bronchial passages. This theory is supported by the fact that those who live in situations where there is little or no vegetation do not suffer from it.

Symptoms.—A difficulty of breathing, and a burning sensation in the throat, are the chief characteristics of this affection.

Treatment.—Removal to a different locality is most effectual. The following is a valuable remedy:—

Citrate of Iron,	1 drachm.
Sulphate of Quinine,	1 scruple.
Extract of Nux Vomica,	8 grains.

Mix, and make into thirty-two pills. Dose, one pill three times a day.

INFLAMMATION OF THE LUNGS (*Pneumonia*).

Causes.—Lung-fever is inflammation of the substance of the lungs. It may be occasioned by any of the causes which produce inflammation in general,—vicissitudes of temperature, the application of cold, violent exercises of the body, exertions of the voice, &c. It occurs most frequently in the winter and spring months.

Symptoms.—It is characterized by fever, difficulty of breathing, cough, dryness of the skin, heat, anxiety, thirst, and a sense of weight and pain in the chest. The pain is dull, deep-seated, and

rarely acute, unless the pleura be likewise affected. At first the cough is frequently dry, and without expectoration; but after one or two days matter is brought up, viscid and rusty-colored, and often streaked with blood. In favorable cases, this disease may decline on the third or fourth day, but more frequently it is protracted to ten days or a fortnight. In unfavorable cases the symptoms increase on the third or fourth day, and become more and more aggravated, until at length the patient dies, exhausted or asphyxiated. A high degree of fever, attended with delirium, great difficulty of breathing, acute pain and dry cough, denote great danger; while, on the contrary, an abatement of the febrile symptoms and of the difficulty of breathing and pain, taking place on the coming on of a free expectoration, or other critical evacuation, promise fair for recovery.

Treatment.—Linseed poultices or poppy-head fomentations should be applied to the chest; a dose of castor-oil should also be given; the diet should be light and unstimulating, and the patient kept perfectly quiet in bed, the air of the room being kept moist by the evaporation of boiling water, while the temperature is maintained at about 55° Fahr. If the patient be weak, it may be necessary to support his strength by means of moderate quantities of wine or brandy. During convalescence, or after suppuration, tonic medicines and a nourishing but not stimulating diet, are necessary to support the strength of the patient.

PLEURISY.

Pleurisy, or pleuritis, is inflammation of the pleura, or investing membrane of the lungs.

Causes.—Among the causes of pleurisy the more common are exposure to cold, especially after violent exercise, blows on the chest, fracture of the ribs, tubercles in the lungs. It is most prevalent in winter, and, next to that, in autumn. Old persons are most subject to it, but it may occur at any period of life.

Symptoms.—It is usually distinguished as acute and chronic. The former generally commences with chills, rigors, and the ordinary symptoms of inflammatory fever, accompanied or followed by a sense of weight in the chest, which in a few hours becomes acute pain, usually referred to a point directly below the nipple. There is also generally a short dry cough, and the breathing is frequent,

short, and anxious,—the pain being increased by a deep inspiration or the act of coughing. Sometimes the patient can only lie upon the affected side, sometimes only upon the opposite one; but usually he prefers lying upon his back. The pulse is frequent and hard, skin hot, cheeks flushed, urine scanty and high-colored, and tongue white. These symptoms are not always so well marked, and the pain is sometimes more diffuse and less severe. In most cases the acute pain, as well as the fever, subsides on the third or fourth day, and the cough and difficulty of breathing abate, though the pleura still continue in a state of inflammation.

Treatment.—In the treatment of this disease the object is to reduce the local inflammation and prevent effusion. Hot and moist flaxseed poultices or poppy-head fomentations should be applied to the chest, the diet should be light and unstimulating, and purgatives should be administered. Blood-letting is not now generally recommended or practised, and should only be had recourse to in severe cases, and then only locally, by means of leeches or cupping-glasses. In chronic pleuritis the symptoms are usually those of the acute form in a mitigated state. It may succeed the acute, or it may come on gradually without any of the more marked features of that disease. There is usually more or less of fever, an acceleration of the pulse, emaciation, difficulty or hurry of breathing, increased by exertion, more or less of pain or soreness, and inability to lie on the healthy side. The treatment of this form of the disease differs from that of the other, the object being to promote the absorption of the effused matter, and also to support the patient's strength. For promoting the absorption of the effused fluid, as well as for preventing its further secretion, counter-irritants are used, as blisters, eruption liniments, tincture of iodine,—the last painted over the part, or exhibited internally, will be found to act very beneficially in removing the effusion. The general health is to be improved by a nutritious but not heating or stimulating diet, and by the cautious administration of such tonics as the strength of the patient is able to bear. Change of air will often be found to act most beneficially in such cases, and is frequently efficacious when most other remedies have failed. Failing other means, recourse is sometimes had to the operation of *paracentesis thoracis*, or tapping the thorax, for setting free the effused matter; but the operation is attended with considerable danger, and is rarely productive of more than a temporary relief.

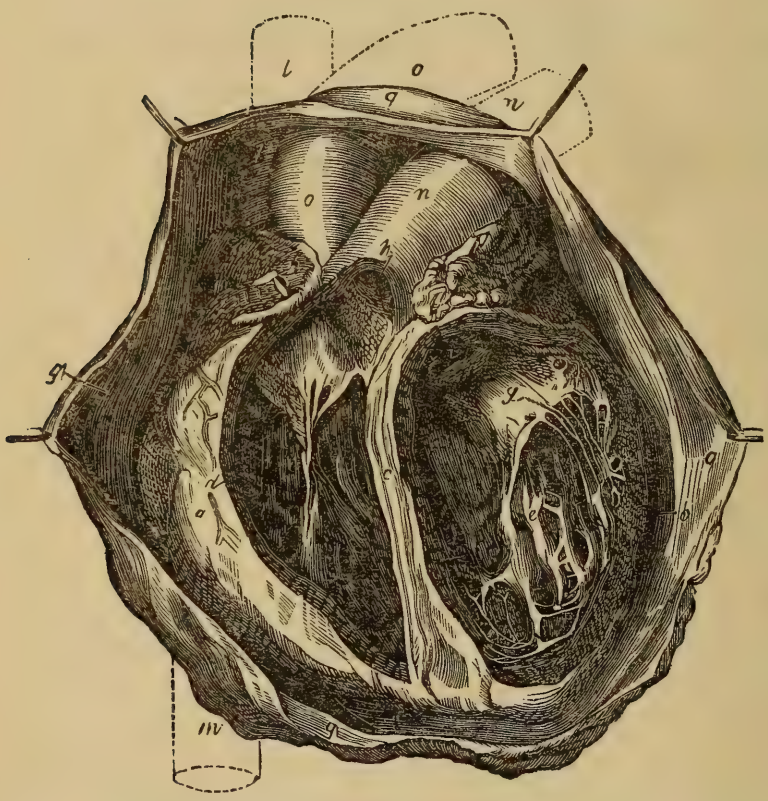
STITCH IN THE SIDE.

Stitch in the side, or spurious pleurisy, is a spasmodic affection of the muscles of the chest, and is rheumatic in its origin. With this there are not the symptoms of inflammation nor difficulty of breathing, except that caused by the pain or stitch in the side. Exposure to cold or violent exercise will also cause this. It generally yields to warm applications, mustard poultices, or stimulating liniments. The best medicines in this case will be pills of colocynth three grains, with extract of colchicum one-quarter of a grain in each, taken every night; and three times a day a seidlitz draught, with fifteen grains of wine of colchicum and six of laudanum in each.

THE HEART.

ANATOMY AND FUNCTIONS.

FIG. 54.



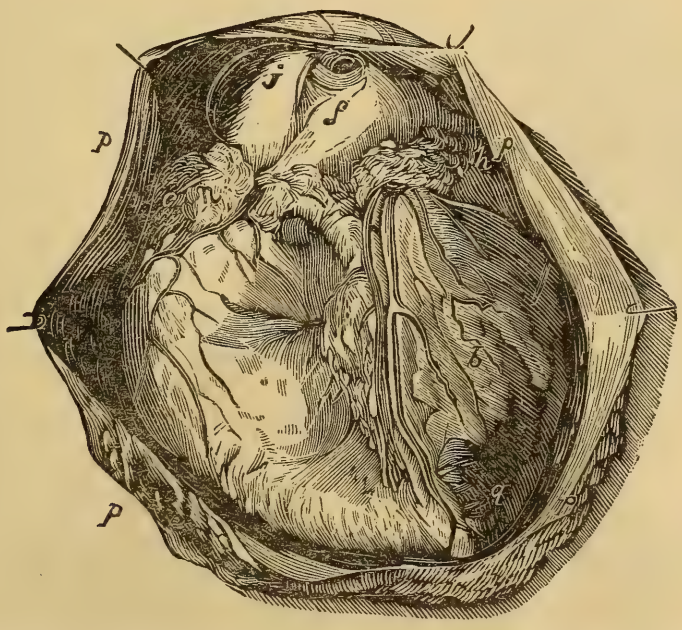
Front View of the Heart, with the Walls of the Right and Left Ventricles removed.

a, *b*, right and left walls of the ventricles; *c*, septum ventriculorum; *d*, cavity of the right ventricle; *e*, cavity of the left ventricle; *f*, valves of the right ventricle; *g*, valves of the left ventricle; *h*, entrance of the pulmonary artery; *i*, entrance of the aorta; *l*, *m*, upper and lower vena cava; *n*, pulmonary artery; *o*, aorta; *q*, heart-case, or pericardium.

THE HEART is the great central organ of circulation. Its form is that of an irregular cone, having its base directed backward towards the spine, and its point forward and downward towards the left

side; so that at each contraction it may be felt striking between the fifth and sixth ribs, about four inches from the median line. In this position it rests upon the diaphragm, having the surface on which it lies much flattened. On its right side, it is firmly attached

Fig. 55.



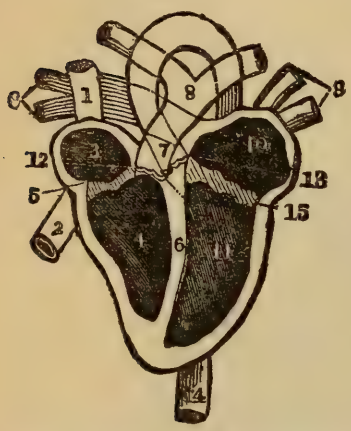
Front View of the Heart, with the Pericardium drawn aside.

to the diaphragm, which, it should be remembered, is the muscular partition between the chest and abdomen; and behind, by the vena cava, or trunk vein which passes through the diaphragm. Behind and above, the heart is also attached, although somewhat loosely, to the upper and back part of the chest, by the vessels which there pass out of the pericardium, or membraneous bag in which the heart is perfectly enclosed, although it is sufficiently loose to allow of free motion. In a healthy state, the pericardium is lined with what is called the serous membrane, which is smooth and moist, and constitutes its inner coat or layer, the outer one being fibrous. This membrane is also reflected, so as to give the heart two coverings, which, at every motion of the organ, glide smoothly over each other, and thus prevent friction.

The heart may be popularly described as a hollow muscle, having four cavities, two on each side. Its action is that of a kind of double

pump, intended to carry on the twofold circulation, namely, through the body and through the lungs. The auricle and ventricle, on the left side, being devoted to the former, and those on the right to the latter. Between the cavities on one side, and those on the other, there is no natural communication, but each auricle is connected with its corresponding ventricle, by a valve which only opens by pressure on one side, so that the blood cannot pass except in the right direction,—any attempt to return being instantly resisted by the closing of the bag-like valves. Should these become diseased, so that they perform their office imperfectly, there will be regurgitation, or passing back of the blood, and that occasions serious derangement of the balance of circulation, resulting in organic disease. These valves, which are also placed where the blood-vessels enter the different cavities of the heart, consist of membraneous folds, and are, according to their form, either sigmoid or semilunar. The regurgitation of blood into the lungs, or other parts of the body, is not an unfrequent cause of hemorrhage or dropsy.

Fig. 56.

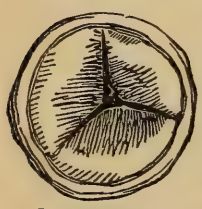


Ideal Section of Mammalian Heart.

1, superior vena cava; 2, inferior vena cava; 3, left auricle; 4, left ventricle; 5, mitral valve; 6, septum ventriculorum; 7, aorta; 8, pulmonary arteries; 9, pulmonary veins; 10, right auricle; 11, right ventricle; 14, descending aorta; 15, tricuspid valves.

It will, perhaps, conduce to the better understanding of all this, if we enter a little more fully into explanation, and refer back to Fig. 51, which exhibits the heart more in its relations to the surrounding parts. Let it be understood that the two large lobes on either side are the lungs: *f* is the heart itself, receiving into its right auricle the blood from the vena cava (*k*); this is the *venous* circulation, which has gone through the system, and is on its way back to the lungs to be reoxygenized. Opposite to this, or on the left side, is the left auricle, into which the purified blood passes through the ventricle, and is pumped out into the aorta (*i*), and pulmonary artery (*g*). These are the main channels of the *arterial* circulation. The contraction of the auricle to force out the blood is called *systole*, and that of the ventricle *diastole*. At the root of each of the above-named

Fig. 57.

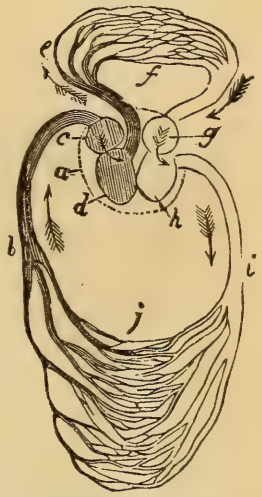


Heart Valve.

arteries are three valves, wnich are like membraneous bags, so arranged that when there is any regurgitation they assume the appearance represented by Fig. 57.

It was the opinion of Harvey that the heart was the sole agent by which the circulation was effected; but we know that there are several other agents that exercise, at least, auxiliary powers. There is no doubt, however, that the heart has a marked influence upon all parts of the circulation: thus, in the large arteries, we may note that the increase of the current set in motion, exactly corresponds with the contraction of the ventricles; and this is observed also in the smaller arteries at an interval scarcely appreciable. In the capillaries even, there is an occasional pulsatile motion to be seen in the transparent parts of an animal, by means of a microscope, after a bleeding, when the heart is beating very faintly. In the veins, also, we find this influence exerted. If the main artery and vein of a limb be exposed and isolated, and an opening made in the latter, the flow of blood may be regulated pretty exactly by compressing the artery, and thus, as it were, cutting off from the vein the supply given to it by the impulse of the heart, whence we may likewise note that it not only by its contraction propels the blood, but in its expansion it acts as a sucker to draw it up, so that it is at once both a sucking and a forcing pump; and such is the power of its action that the whole mass of the circulation, about twenty-eight pounds, goes through the system in the space of three minutes.

Fig. 58.



Ideal View of the Course of Circulation.

a, incloses the four chambers of the heart; *b*, veins bringing dark blood to *c*, right auricle; *d*, right ventricle; *e*, pulmonary artery; *f*, beginning of pulmonary vein conveying the arterialized blood to *g*, left auricle; *h*, left ventricle; *i*, arteries. The arrows show the direction of the current.

DISEASES OF THE HEART.

The heart, from the important part which it plays in the animal economy, is subject to various, serious, and often fatal diseases. Like the other viscera, it is removed from the eye, so that but little knowledge of its condition can be obtained by inspection; and hence we must have recourse to other means. The ear is the principal

means of obtaining a knowledge of the state of the heart, and by auscultation and percussion we are enabled to detect the existence of various diseases. The heart gives out two sounds, known as the first and second, which are distinguished from each other. The first sound is longer than the second, and the interval between the first and second sounds is shorter than that between the second and first. They have been compared to the two syllables *lupp, dupp.* Any manifest alteration in these sounds is indicative of the existence of disease. They may be high or low, clear or dull, muffled, rough, intermittent, &c. Murmurs or regurgitant sounds may arise from disease of the valves. The power of distinguishing between the normal and abnormal sounds of the heart, and of the causes producing the latter, can only be obtained by lengthened experience. Diseases of the heart are usually divided into two classes: first, functional or nervous; and second, structural or organic. Chief among the former are palpitations, syncope or fainting, and angina pectoris. They are chiefly to be met with in persons of a naturally nervous temperament, more especially women suffering from hysteria, or other like complaints, and may be induced by great mental excitement. In such cases great attention should be paid to the general health, and, by means of tonics, sea-bathing, and gentle open-air exercise, the system is to be strengthened. Violent exertion, and strong mental excitement, are particularly to be avoided. Among the principal organic diseases to which the heart is subject are pericarditis, carditis, endocarditis, atrophy, hypertrophy, dilation, and valvular diseases.

SHRINKING OF THE HEART (*Atrophy*).

A wasting of the heart's substance, arising from a deficiency in the supply of nutritive matter. It is usually accompanied by general emaciation, and will be pretty sure to terminate in death. When the heart is examined after death, the tissues are found to have undergone a change, and, instead of a striped, to present a homogeneous appearance. This is called "fatty degeneration." The treatment is to strengthen the system by tonics, wholesome and nutritious diet, open-air exercise, sea-bathing, and the like.

DILATION OF THE HEART.

Dilation of the heart is sometimes caused by excessive exertion and strong excitements of any kind. The whole substance of the organ, or one or more of the cavities, or smaller orifices, may be

dilated, the walls being merely extended, without any increase of substance. In this case the muscular parietes being thinned and feeble, there will be a want of vigor in the circulation, the muscular compression and extension will be weak and irregular, and the valvular action incomplete, so that the blood will frequently escape out of its proper channels, and these hemorrhages, although trifling in themselves, will so reduce the patient that he will, probably, be carried off by one of them. Abstinence from the exciting causes of the disease, rest, and nourishing diet, with strict attention to the general state of the health, are the means to be taken in this case.

DISEASE OF THE VALVES.

Disease of the valves, so commonly follows endocarditis, if of long continuance, that it may almost be considered as a chronic form of that disease. It is a thickening of the internal lining of the heart, especially at the valves. It becomes not merely thickened uniformly, but is the seat of warty excrescences, and even cartilaginous and osseous formations of considerable size, extending into the cavities of the heart. In old persons, and especially those addicted to a generous mode of living, we most frequently meet with ossification, the effects of which are sanguineous and serous congestion, difficulty of breathing, apoplectic seizures, and other symptoms of embarrassed circulation.

DROPSY OF THE HEART (*Hydrothorax*).

This is a collection of fluid in the cavity of the chest, or the pericardium. It is never an idiopathic disease, but is consequent on some previous disorder of the viscera of the chest, it may be of the heart or lungs, or their investing membrane, the pericardium or pleura.

Symptoms.—Great difficulty of breathing, especially after exertion, and when the body is in a horizontal position, with great weight and oppression at the chest; pallid, purpleish countenance, with an anxious expression, and the usual symptoms of dropsy.

It requires the same treatment as dropsy.

DISPLACEMENT OF THE HEART.

This is generally congenital, but is sometimes a consequence of effused fluid, or of its subsequent absorption. Cases are on record where this organ has occupied the right side of the chest, the lungs

and other organs presenting a relative change of position without any disturbance of their functions. It has also been found pushed out of the left into the right side by tumors, or extensive effusion of fluid into the pleura. This latter is the more common occurrence.

INFLAMMATION OF THE PERICARDIUM (*Pericarditis*).

Causes.—It may be induced by exposure to damp or cold, or by other causes, which give rise to inflammation in other parts. It frequently arises from acute rheumatism, or from Bright's disease.

Symptoms.—It is characterized by great tenderness over the region of the heart, amounting, when pressed, to sharp cutting pains, which prevent the patient from lying upon the left side. If, as is usually the case, the pleura is involved, there will be acute pain on coughing or drawing a deep breath. Sometimes the attack is not so severe, and only a slight pain is felt, or only a sense of heaviness and oppression. Generally the action of the heart is increased, sometimes so much so as to constitute palpitation. Frequently there is a considerable quantity of fluid effused into the cavity of the pericardium, which is sometimes externally visible by the bulging out over that part.

Treatment.—Its mode of treatment depends very much upon the particular circumstances of each case. Where the disease is rapid and violent, bleeding may be of great service; but this course is not so much relied on or practised now as formerly. The bicarbonate of potash, in half-drachm doses every two or three hours, is recommended, together with opium, to relieve the pain and restlessness. Poppy fomentations, or flaxseed-meal poultices, applied to the part, serve to relieve the pain, and the vapor-bath will usually be found beneficial. The diet should at first be light and nourishing; but, if the patient is very weak, stimulants will be necessary, and afterwards the system should be strengthened by tonics.

CARDITIS.

Inflammation of the heart itself sometimes occurs, but it is usually accompanied with inflammation of the pericardium. The symptoms in both cases are the same, and the treatment will, consequently, be be similar in both. The like remarks will also apply, in a great measure, to

ENDOCARDITIS.

Inflammation of the interior lining membrane of the heart, is usually accompanied by one or both of the above. In this case there is more or less of fever and anxiety, and a peculiar sound of the heart is heard upon auscultation.

ENLARGEMENT OF THE VENTRICLES (*Hypertrophy*).

This is the result of an excess of nutrition, the nutritive process appearing to go on more rapidly than the absorbent. In this way the heart is often greatly enlarged in bulk, and its operations seriously interfered with. It is usually distinguished into three kinds: first, simple, when the walls of the heart, or its divisions, are thickened, without any diminution in the capacity of the cavities; second, eccentric, or aneurismal, when the walls are thickened, and the cavities likewise enlarged; and third, concentric, when the cavities are diminished in proportion to the thickening of the walls. The first of these is the least common, and the second the most frequent; and any of them may affect a single cavity or the whole heart. From the force with which the blood is propelled in such cases being greatly increased, the tendency is to produce hemorrhages, aneurism of the aorta, apoplexy, &c. The pulsations are frequently regular, but strong, sometimes even visibly raising the bed-clothes, and the chest is bulged out over the part.

Treatment.—Rest, abstinence, and more or less depletion, according to circumstances, are the proper means to be employed in such a case; and usually, with care and perseverance, the symptoms will be much alleviated.

PALPITATION OF THE HEART.

Palpitation of the heart is an increase in the force or frequency of the heart's action. It is frequently produced by increased physical action or mental emotion, and is sometimes the result of disease. Sometimes the palpitations are loud, and clear and regular; at others, they are faint and intermittent: now a distinct throb, or several, and then a tremulous flutter, or a quick beat, like the wings of a confined bird flapping against the bars of its prison. When there is violent throbbing of the heart, which may be felt by a hand

pressed upon the chest, while the patient is himself unconscious of it, there is reason to apprehend organic disease; but when there is such acute consciousness as we have described, there is generally only functional or nervous derangement, without any structural change.

Causes.—A disordered stomach may be the cause, although there may be no other symptoms of this. We have known cases in which a very slight irregularity in the mode of living has produced palpitation of the heart, and that, too, in an otherwise healthy person. In some, almost any strong nervous stimulant will produce it, and we recollect one instance in which it always came on after a cup of tea, and was never troublesome when this beverage was not taken.

We mention this to show that palpitation is not always, nor indeed commonly, symptomatic of heart disease; and need therefore cause no unnecessary alarm, although its frequent recurrence should set the patient inquiring as to what is the real cause. Young women with whom there is derangement of the menstrual functions, in whom the blood is watery and poor, wanting the red corpuscules; the listless, the pallid, the hysterical, in these we meet with palpitation in its most aggravated forms; as also in the indolent, the susceptible, and the delicate; those who dwell on morbid fancies, and excite the imagination with sensual thoughts, or horrible pic tures. To such every beat of the pulse seems like a call from the world of spirits, every flutter and palpitation like a brush from the wings of the angel of death, or the whispering voice of an accusing conscience.

Treatment.—In these cases the only treatment likely to be of service must be directed towards removing the predisposing and exciting causes, and establishing a more healthy nervous condition: gentle exercise, tonics, change of air and scene, an endeavor to occupy the mind in some useful and moral pursuit; a well-regulated and generally frugal, although sufficiently nourishing diet; and a strict avoidance of all that can excite or stimulate either mind or body. By this means palpitations not connected with organic disease, may generally be got rid of. If the patient is of a full habit, and has a tolerably strong pulse, a course of gentle purgatives may be necessary. They should not be salines, but of a cordial nature, something like this:—

Pill of Aloes and Myrrh,	½ drachm.
Compound Galbanum Pill,	½ drachm.

Divide into twelve pills, and take one at bed time.

Compound Infusion of Senna,	3 ounces.
Decoction of Aloes,	3 ounces.
Spirits of Sal Volatile,	1 drachm.
Compound Tincture of Cardamums,	2 drachms.
Tartrate of Potash,	½ ounce.

Mix, and take two tablespoonfuls occasionally.

NEURALGIA OF THE HEART (*Angina Pectoris*).

A disease which is commonly connected with ossification, or other morbid affections of the heart.

Symptoms.—It is characterized by a sudden and most violent pain across the chest, which extends down the arms, and seems to threaten immediate dissolution. It sometimes comes on during rest, but most usually after violent exertion. The paroxysm does not commonly last long, but it has been known to continue for an hour or more.

Treatment.—An anodyne combined with ammonia has sometimes been found very effectual in relieving the spasm. The following is a good formula:—

Fetid Spirits of Ammonia,	½ ounce.
Solution of Morphine,	3 drachms.
Camphor Mixture,	6 ounces.

Take a tablespoonful every half hour until relieved. If the paroxysm is very violent, a little hot brandy and water may also be taken; or a teaspoonful of sal volatile or ether in water, and repeated at intervals. If the pain continue, frictions and mustard plasters applied to the chest, soles of the feet, and calves of the legs. Where there is extreme faintness, the horizontal posture should be adopted. Persons subject to these attacks would do well to provide themselves with the following, as a medicine in case of need:—Half an ounce each of sulphuric ether, spirits of ammonia, and sal volatile; two drachms of tincture of opium. Mix, and take a teaspoonful in water; and repeat at the end of an hour if relief be not afforded.

Herbal, or Eclectic Treatment for Heart Diseases.

In all cases of heart disease, the body and mind should be kept as easy and cheerful as possible. The diet should be well regulated, —nourishing but not stimulating. Coffee, tea, liquors, and tobacco must be dispensed with. The feet should be constantly dry and warm, and occasionally rubbed with mustard.

For inflammatory diseases of the heart, the bowels, if costive, may be moved with compound tincture of jalap. To each dose add ten grains of cream of tartar. Keep up a perspiration till the pain is relieved, by giving a teaspoonful of compound tincture of Virginia snake-root; also a warm infusion of pleurisy-root. Mustard-plasters over the chest and spinal column are also to be employed. If the patient is troubled with sleeplessness, give eight to ten grains of compound powder of ipecac and opium.

For palpitation, the tincture of digitalis, ten or fifteen drops, three or four times a day, has been found useful. When the nervous system is affected, give small quantities of wine or spirits, or a few drops of laudanum or ether.

For neuralgia, or breast-pang, give a teaspoonful of a mixture of equal parts of laudanum, ether, and oil of castor. The powder of Indian hemp-root may also be taken in doses of a small teaspoonful two or three times a day. If the stomach is acid, a teaspoonful of soda in half a tumbler of water will correct it.

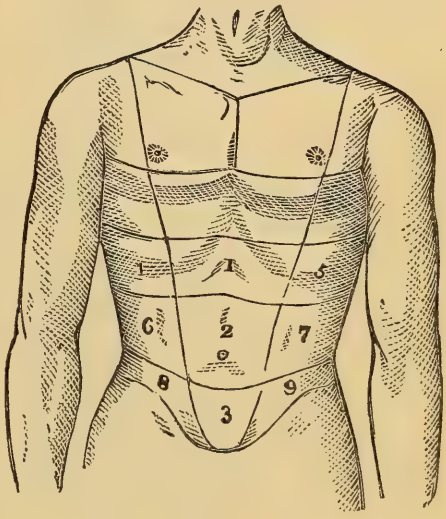
THE ABDOMINAL CAVITY.

ANATOMY AND FUNCTIONS.

The Abdomen is the lower venter, or belly, containing the stomach, intestines, liver, spleen, pancreas, kidneys, &c. It is lined within by a membrane called the *peritoneum*, defended on either side by the short ribs, and covered with the abdominal muscles, which, by their relaxations and contractions, in the act of breathing, assist digestion, and give the necessary secretive and expulsive motions to the surrounding parts.

The abdomen is bounded above by the midriff, or diaphragm; or, to speak more clearly and scientifically, by the *cartilago ensiformis;* and below by the pelvic bones, forming the pelvic cavity, with which it communicates; at the front and sides are the beforementioned abdominal muscles, which also extend backward to the vertebral column, or spine. This is the largest cavity of the human body, and, for convenience of description, it has been mapped out into three zones,—upper, middle, and lower,—and several parts, or regions.

Fig. 59.



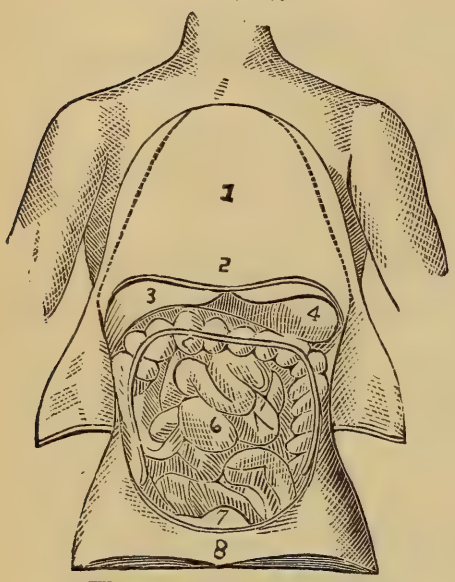
The Abdomen.

1, epigastric region; 2, the umbilical; 3, the hypogastric; 4, 5, the hypochondriac; 6, 7, the iliac; 8, 9, the inguinal.

Some anatomists include in the abdominal regions the inferior dorsal and lumbar, which are at the back, corresponding in position with the two upper zones.

The contents of the abdomen—or, as they would be more properly called, the abdominal viscera, this word being the plural of *viscus*, which means a bowel or any internal organ which has a specific use—are situated as shown in Fig. 60. Below the chest (1), and next to the diaphragm (2), is the liver (3), extending from beneath the right ribs across to the left, and having the largest development on the former side. Next to this is the stomach (4, the smaller end of which is situated in the epigastric, and the larger in the left hypochondriac region, where it comes in contact with the spleen, or melt. Behind the stomach lies the pancreas, or sweetbread. In the middle zone lies the large bowel (5), the omentum or caul, with a portion of the small intestines (6); and behind these, close to the spine, are the kidneys. The small intestines also pass down the centre part of the inferior zone, as do laterally the ends of the large intestines, or colon; and there also we find, when it is distended, the upper portion of the bladder (7). Over all these viscera, covering and supporting them, extends the moist glistening membrane called the peritoneum, which extends also into what is called, in the male, the rectum, in the female the womb. Some of the abdominal viscera are solid, as the liver; some hollow, as the intestines: and the sounds which they emit, when the abdomen is struck by the finger of the skillful physician, indicate to his trained ear the state and condition of the organs within.

Fig. 60.



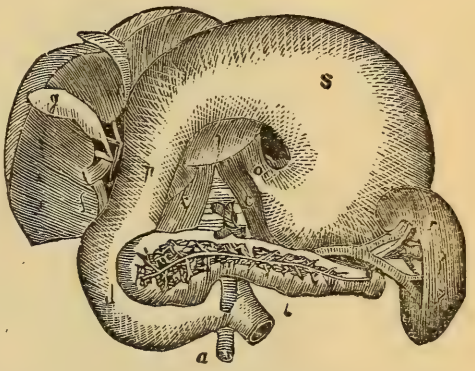
The Abdominal Viscera.

THE STOMACH.

The stomach is the large membranous receptacle which receives the food from the œsophagus, and within which it is acted upon by the gastric juice and converted into chyme. It is situated in the left hypochondriac and epigastric regions, and when distended it has the shape of an irregular cone, having a rounded base and being curved upon itself. The left extremity is the larger, and is called

the greater or splenic end of the stomach,—the right or small end being called the pyloric. The œsophagus terminates in the stomach two or three inches from the great extremity by the cardiac orifice; while by the pyloric orifice at the other end, the digested matter enters the duodenum. When moderately filled, the stomach is about ten or twelve inches in length, and its diameter at the widest part about four inches. The walls of the stomach consist of four distinct coats, held together by fine areolar tissue, and named, in order from without inwards—the serous, muscular, areolar, and mucous coats. By some the areolar is not reckoned a distinct coat. The first of these is a thin, smooth, transparent, elastic membrane, derived from the peritoneum. The muscular coat is very thick, and composed of three sets of fibres—the longitudinal, circular, and oblique, which form three layers. The areolar and fibrous coat is a tolerably distinct layer, placed between the muscular and mucous coats, and connected with both. The last is a smooth, soft, rather thick and pulpy membrane, loosely connected with the muscular coat, and covered with exhaling and inhaling vessels. At the pyloric orifice, leading from the stomach into the duodenum, there is a sphincter muscle which contracts the aperture and prevents the passage of any matter into the intestines until properly digested. The food is propelled along the œsophagus, and enters the stomach in successive waves through its cardiac orifice. It is then subjected to a peculiar peristaltic motion, having for its object to produce a thorough intermixture of the gastric fluid with the alimentary mass, and to separate that portion which has been sufficiently reduced from the remainder. This motion causes not only a constant agitation or churning of the contents, but also moves them slowly along from one extremity to the other. These revolutions are completed in from one to three minutes, being slower at first than after chymi-

Fig. 61.



The Stomach and Surrounding Organs.

l, the under-surface of the liver; *g*, the gall-bladder; *f*, the common bile duct; *o*, the cardiac end of the stomach; *s*, under surface of the stomach; *p*, pylorus; *d*, duodenum; *h*, *i*, the pancreas. cut across to exhibit the structure of the pancreatic duct, and its branches; *r*, the spleen; *c*, portion of the diaphragm; *a*, aorta.

fication has more advanced. The passage of the chyme or product of the gastric digestion through the pyloric orifice into the commencement of the intestinal tube is at first slow; but when the digestive process is nearly completed, it is transmitted in much larger quantities.

Fig. 62.

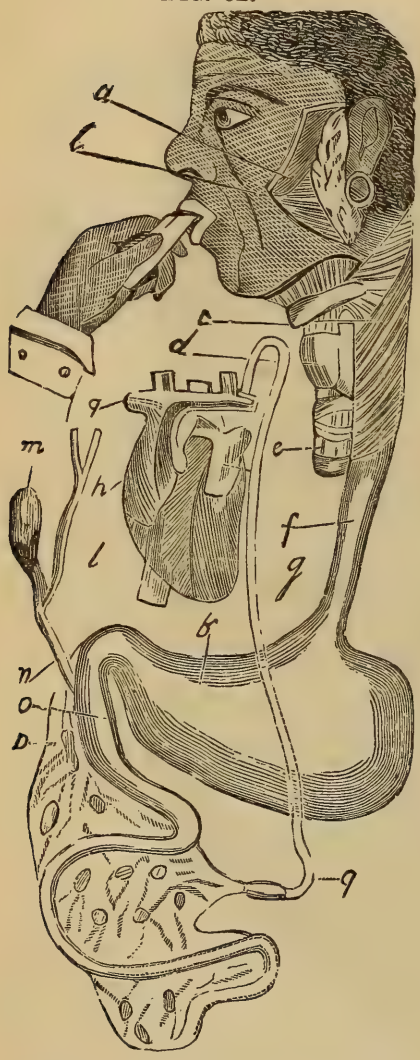


Diagram of the Principal Organs engaged in the preparation of food.

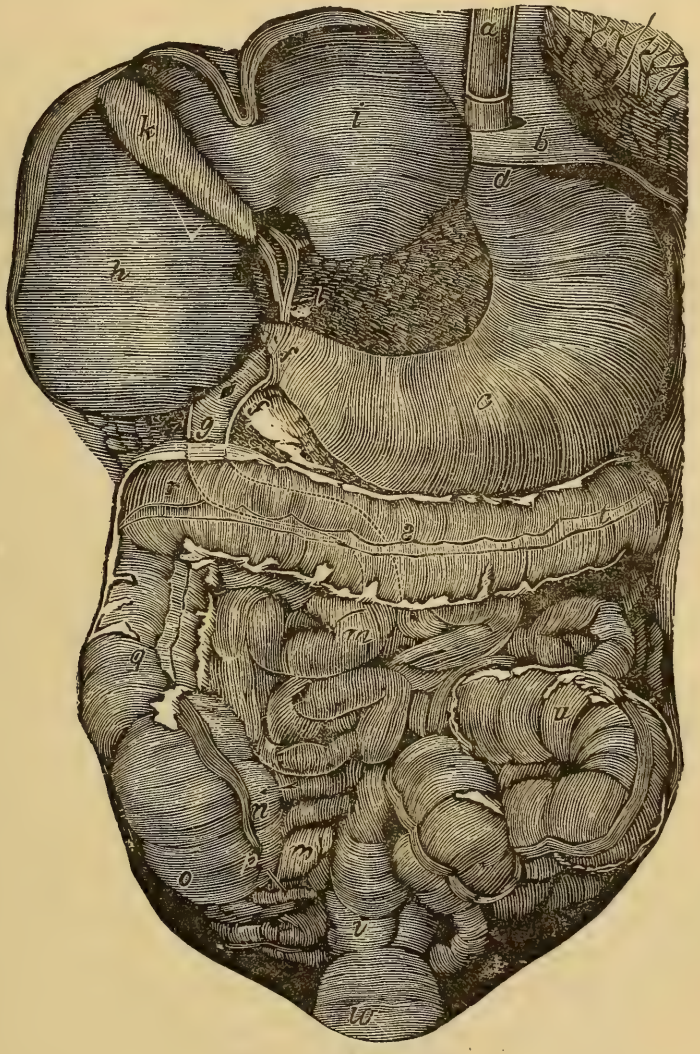
a, muscles of the cheek; *b*, parotid gland; *c*, muscles of the gullet; *d*, larynx; *e*, trachea; *f*, gullet; *g*, left ventricle of the heart; *h*, right auricle of the heart; *i*, left auricle; *k*, stomach; *l*, pancreatic duct; *m*, gall bladder; *n*, common duct; *o*, duodenum; *p*, mesenteric glands; *q*, thoracic duct.

THE LIVER.

The liver is the secreting organ or gland by which the bile is formed. It is situated in the right hypochondriac and epigastric regions below the diaphragm, and is of a reddish-brown color. Its form is irregular, being convex on the upper surface, irregularly concave below, very thick behind, and very thin in front; and in the adult it generally weighs from three to four pounds. It is divided into two principal lobes—the right and left, the former of which is by far the larger. They are divided on the upper side by a broad ligament, and below by a considerable depression, or fossa. Between and below these two lobes is a smaller lobe, called *lobulus Spigelii*, which is bounded on the left by the fissure for the lodgment of the ductus venosus; on the right by the fissure for the vena cava. The *lobulus caudatus* is a tail-like process of the liver, stretching downwards from the middle of the right lobe to the lobulus Spigelii. The liver, like the other viscera of the abdomen, receives an investment from the lining membrane of that cavity—the peritoneum, which, being reflected from it at different points, forms broad bands, connecting it with the surrounding parts.

An investment of areolar tissue is also spread over the organ, extending into the interior, and forming thin but dense sheaths to the vessels and canals, called the capsule of Glisson. The proper tissue of the liver is composed of a great number of granular

FIG. 63.



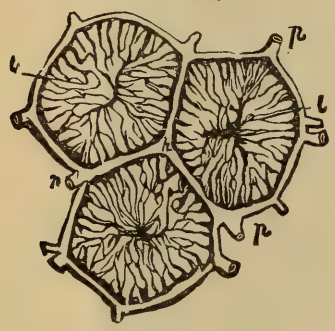
Organs of Digestion.

a. œsophagus; *b*, diaphragm; *c*, stomach; *g*, duodenum; *h*, *i*, right and left lobe of the liver; *k*. gall-bladder; *l*, biliary duct; *m*, mesentery; *q*, ascending colon; *r*, *s*, *t*, transverse colon; *v*, rectum; *w*, bladder; *y*, spleen; *z*, left lung.

bodies, of the size of millet, and called lobules, of a foliated appearance. The blood-vessels of the liver are the hepatic artery and veins and the vena portæ; the lymphatics are numerous, and the nerves

are supplied from the pneumogastric and phrenic, and the hepatic flexus. The liver thus receives two kinds of blood: arterial, by means of the hepatic artery, in small quantity, destined principally for the nourishment of the gland; and venous, by the vena portæ, in much larger quantity, from which the bile is principally formed.

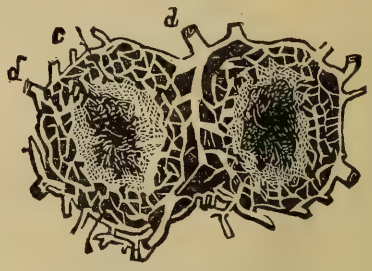
Fig. 64.



Lobus of the Liver, showing Hepatic and Portal Veins.

p, branches of portal vein; *l*, capillaries connecting hepatic and portal veins; *h*, hepatic veins.

Fig. 65.



Lobule showing the Hepatic Ducts.

d, *d*, the hepatic ducts; *b*, *b*, minute ramifications.

The tributary branches, by the junction of which the main trunk of the portal vein is formed, comprise the veins which receive the blood from the stomach and intestinal canal, the spleen, pancreas, and gall-bladder. From these various sources, then, venous blood is poured into the liver by the vena portæ, which divides and subdivides, like an artery, till it reaches the interlobular spaces, forming a freely anastomosing network throughout the organ, and constituting the interlobular veins. From these interlobular veins proceed, on every side, minute capillaries, which form networks that seem to make up nearly the whole substance of the lobules. Through the capillaries the blood passes into *intra*-lobular veins, of which one, with its outspread branches, occupies the centre or axis of each lobule; and these intralobular veins, by successive junction and conflux, make up the trunks of the hepatic veins, by which the blood of the portal vein, after secreting the bile, is carried from the liver.

The secretion of bile, though the chief and most obvious of the functions of the liver, is not the only one which it has to perform; for recent discoveries have shown that important changes are effected in certain constituents of the blood, in its transit through

this gland, whereby they are rendered more fit for their subsequent purposes in the animal economy. From the labors of M. C. Bernard and others, it apppears that the low form of albuminous matter conveyed from the alimentary canal by the portal vein requires to be submitted to the influence of the liver before it can be assimilated by the blood. The liver also possesses the remarkable property of forming sugar out of principles in the blood which contain no trace of saccharine or amylaceous matter. The excretory apparatus of the liver consts of the hepatic, common, and cystic ducts, and the gall-bladder.

The biliary ducts commence by small twigs in each lobule, and join, forming, where they emerge from the gland, the hepatic duct. This duct, after passing down for a short distance, is joined at an angle by the cystic duct from the gall-bladder. The common duct thus formed is called the Ductus Communis Choledochus, and empties itself into the duodenum.

The retention of the materials of the bile in the blood acts like a poison upon the nervous system, and if the suspension of secretion is complete, death soon takes place. Much of the cerebral disturbances accompanying dyspepsia, some forms of which are popularly known as "liver complaint," is doubtless due to deficiency of the biliary secretion, and the non-elimination of certain deleterious constituents.

THE GALL-BLADDER.

The gall-bladder is an oblong membranous receptacle, situated on the concave side of the liver, under the right lobe. It is about the size of a small hen's egg, and resembles a pear in shape. It has three coats—an external or peritoneal, a middle or fibrous, and an internal or villous. The inner coat has a reticulated honeycomb appearance, but does not possess any follicles for the purpose of secretion. It serves as a reservoir for the bile, which, when digestion is not going on, regurgitates through the cystic duct, and is retained for future use. The cystic duct connects the gall bladder with the hepatic duct, which proceeds from the liver, and the two, when united, form the Ductus Communis Choledochus, by which the bile is conveyed to the duodenum. The cystic duct presents internally a number of folds, which are generally circular.

THE SPLEEN.

The spleen is a spongy viscus, of a livid color, oval in figure, and situated in the left hypochondriac region, between the eleventh and twelfth false ribs. It is convex externally and concave internally, and its weight in the healthy adult is from four to ten ounces. It is largely composed of cells, but its internal structure is not well understood, neither have its uses been ascertained; but it would seem to be in some way of use to the stomach during the process of digestion.

THE INTESTINES.

The intestines are that part of the alimentary canal which extends from the stomach to the anus, and is formed by a peritoneal, muscular, and mucous or viscous coat, united by cellular membrane.

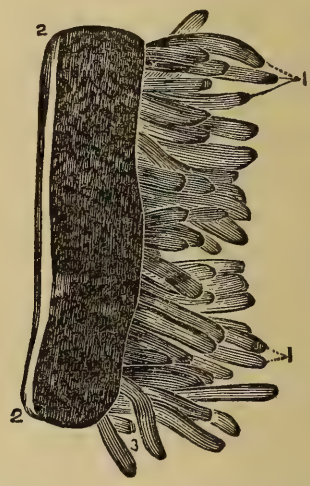
Fig. 66.



The Cæcum, with its Appendix, and Entrance of the Ileum, and Ileo-cæcal Valve.

1, cæcum; 2, commencement of colon; 3, ileum; 4, aperture of entrance of the ileum into the large intestine; 5, 5, ileo-cæcal valve; 6, aperture of appendix vermiformis cæci; 7, appendix; 8, 8, sacculi of the colon, separated by valvular septa; 9, falciform frænum of the appendix.

Fig. 67.

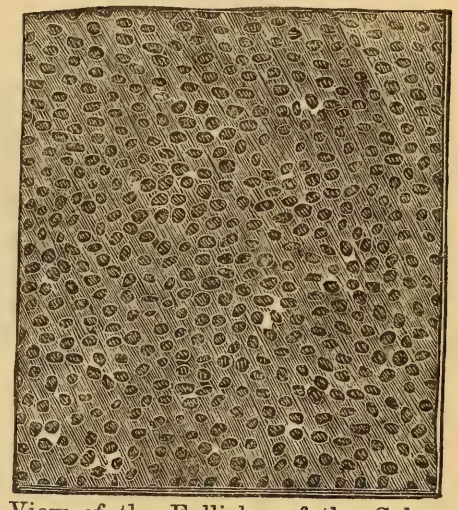


Longitudinal Section of a Portion of the Small Intestine.

It is divided into small and large intestines,—the first of which has three divisions, severally distinguished as the Duodenum, or twelve-inch intestine, the membrane of whose inner surface presents a number of folds called valvulæ conniventes. This begins at the pylorus or lower surface of the stomach; it bends first backwards, then downwards, and then across the body, being partially covered by the peritoneum. It then

takes the name of Jejunum, so called from its being usually empty at this part. It then runs into the remaining portion called the Ileum, which takes its name from its mazy folds or convolutions. The small intestines open by the ileo-colic valve into the large intestines, which have also three divisions: first, the cæcum, or head of the colon, to which is attached the appendix vermiformis, a little blind bag. The colon, which constitutes almost the entire length of the large intestine, is termed as it ascends into the right lumbar region, the ascending colon; as it crosses the abdomen, the transverse arch of the colon; and as it descends in the left lumbar region, the descending colon. In the iliac region it forms a double curve, and is thence called the sigmoid flexure of the colon,—the fold of the peritoneum which inverts it, being termed the iliac meso-colon.

Fig. 68.



View of the Follicles of the Colon, magnified about 115 times.

The termination of the large intestine is the rectum, or end of the alimentary canal,—so called because it is nearly in a right line. Here the covering called the peritoneum ceases, and the intestine accommodates itself to the hollow of the pelvis, having its external opening in the anus, the sphincter of which, a strong circular muscle, guards it. Fig. 60 will serve to render more plain what we have attempted to describe.

Fig. 69.



View of the Villi and Follicles of the Ileum, highly magnified.

The whole of the intestinal canal is a continuous tube about six times the length of the body, the first three-quarters of it compris-

ing the small, and the last quarter the large intestines. The size of the tube of the latter portion is much greater than that of the former,—the cæcum, the largest of all, being at least three times the size of the ileum.

Fig. 70.



Mesenteric Circulation.

In the mucous coat of the alimentary canal is to be found a cribriform texture of veins, almost without an artery. The fine venous trunks of a deeper layer have their originating extremities directed vertically toward the cavity of the gut, and the meshes of the venous intertexture are exceedingly minute, producing in the colon an appearance resembling a plate of metal pierced with round holes closely bordering on each other. These holes are the follicles of Lieberkuhn, are gaping orifices, the edges of which are rounded off, and their depth is that of the thickness of the venous anastomosis. The aggregate number of these follicles in the colon, is estimated at nine millions six hundred and twenty thousand.

Fig. 71.



Parotid Gland of a Sheep, exhibiting the branched and lobulated character of the glands of the human stomach, and other parts.

The villi (shown in Fig. 69) are curved, with their edges bent in, or concave; but there is, in the whole canal, every variety of shape, from oblong, curved, and serpentine ridges, to the laterally flattened cone standing on its base.

Fig. 70 shows a distended intestine, with its arteries, veins, and lymphatics, or lacteals, with three glands (5), through which the absorbed matter passes, and in which it is believed that it is vitalized.

Herbal, or Eclectic Treatment for Cholera Morbus.

No time must be lost in treating the severe stages of this disease. Give the patient copious drinks of whey, warm barley-water, thin water-gruel, or weak chicken-broth. Bathe the feet and legs in warm saleratus-water, and apply warm fomentations of hops and vinegar to the bowels. In addition to these, apply a warm poultice of well-stewed garden-mint, or a poultice of mustard and strong vinegar will be found of much service. The vomiting and purging may be stopped by the following:—

Ground Black Pepper,	1 tablespoonful.
Table Salt,	1 tablespoonful.
Warm Water,	½ tumblerful.
Cider Vinegar,	½ tumblerful.

Dose, a tablespoonful every few minutes. Stir and mix each time until the whole is taken.

The evacuations, however, should not be stopped till the patient feels very weak. Nourishing diet should be taken by the patient. A wineglass of cold camomile tea once or twice a day would be very beneficial, as would ten drops of elixir of vitriol three or four times a day, or a tea made of black or Virginia snake-root. Flannel should be worn next the skin, and the warm bath should be frequently resorted to.

COLIC.

Colic is a name given to several diseases which are characterized by severe pain of the bowels, with distension or flatulence, but without looseness or diarrhœa. Medical men distinguish no fewer than seven different kinds of this complaint; as, 1, Spasmodic, in which the principal symptoms are sharp and spasmodic pains about the navel; 2, Stercoraceous, when the pain is accompanied with constipation of the bowels; 3, Accidental, when occasioned by indigestible food, or by acrid matter in the intestines; 4, Bilious, when accompanied with vomiting of bile, or with obstinate costiveness; 5, Flatulent, when it arises from flatulence in the bowels; 6, inflammatory, when accompanied with heat and inflammation; 7, Lead, Painter's, or Devonshire colic, the dry belly-ache which is attributed to the poison of lead.

Causes.—Among the most frequent causes may be named worms, poisonous or unwholesome substances, long undigested food, redun-

dancy of vitiated bile, internal gout and rheumatism, intense cold, hard or acid fruits or vegetables.

Symptoms.—The symptoms of colic, in general, are a painful distension of the lower region of the belly, with a twisting round of the navel, and very commonly vomiting, costiveness, and spasms.

Painters' Colic.

Lead or painters' colic is characterized by obstinate costiveness, and vomiting of acrid bile; the pains come on in paroxysms. The spasms gradually become more violent, and if not frequently alleviated, the bowels become perfectly intractible.

Treatment.—Give immediately from thirty to forty drops of laudanum, and apply a hot bath; afterwards give the following mixture: sulphate of magnesia, one ounce; powdered alum, two drachms; tincture of opium, half a drachm; water, six ounces. Dose, one-fourth every four hours.

For the treatment of paralysis, or palsy arising from the absorption of lead,—which is generally confined to the wrists,—use galvanism, friction, and shampooing, with chalybeate waters. Those engaged in the manufacture of lead, or in occupations in which one or other of its preparations are frequently handled, may generally escape its baneful effects by strict attention to cleanliness. They should never take their meals where they work, or with unwashed hands. Let them eat fat meat, and butter, and take acidulous drinks, especially those rendered so by sulphuric acid. The men employed at the Birmingham white lead works have been almost free from this disease, to which they were much subject before, since they have mixed a little of the above acid with their molasses-beer. From the first attack of lead colic patients generally recover; but unless they change their occupations, or observe the above precautions with scrupulous care, the attacks are repeated, each time with greater violence, and they will become, eventually, miserable cripples.

Wind Colic.

Wind colic is a severe and distressing pain in the bowels, sometimes a stoppage, and swelling about the pit of the stomach and the navel. The complaint may be caused by weakness in the digestive organs, by indigestible food, unripe fruit, or costiveness.

Treatment.—If the pain is caused by having eaten anything indigestible, an emetic should be immediately taken. If this does not

THE PANCREAS.

The pancreas is a single glandular organ, situated transversely across the upper part of the abdomen, at the posterior part of the epigastric region, about on a level with the last dorsal vertebra. It is of an irregular elongated form, from six to eight inches in length, an inch and a half in breadth, and from half an inch to an inch thick. The right extremity, or head, is curved upon itself from above downwards, and is embraced by the concavity of the duodenum. Its body tapers towards its left extremity, where it forms a tail, terminating at the spleen. The pancreatic duct extends from left to right through the substance of the pancreas, giving off numerous branches, and terminating in the common choledic duct, which conducts its secretions to the duodenum. In structure, the pancreas closely resembles the salivary glands, but it is looser and softer in texture; and the fluid secreted is almost identical with saliva. Its object is believed to be to reduce fatty matters to the state of an emulsion, and thereby promote their absorption by the lacteals. The amount daily secreted by man is from five to seven ounces, and it is most abundant at the commencement of digestion.

DISEASES OF THE ABDOMINAL CAVITY.

ASIATIC CHOLERA.

The Asiatic, malignant, or pestilential cholera, is a very violent form of disease, and first became known in this country in June, 1832. It commonly comes on without any warning, and the patient is frequently a corpse in a few hours.

Causes.—It depends upon a peculiar condition of the atmosphere, not very well determined. Crowded towns and cities are the most liable to its ravages, as are also low and damp situations. It may be caused by eating improper food, intoxication, sensual habits, or anything that undermines the general health. Fear will also cause it.

Symptoms.—The attack usually begins with sickness and purging; the discharge in this case not being bilious, but a thin, colorless fluid, like rice-water, accompanied with great prostration of strength and cold clammy sweats. In a short time dreadful cramps assail the extremities, and afterwards the abdomen and other parts of the

CHOLERA MORBUS.

This is a disease prevalent in warm weather. From the great amount of bile secreted, it is also called Bilious Cholera.

Causes.—Excessive heat, sudden atmospheric changes, indigestible food, unripe fruits. Dampness, wet feet, and violent passions will also cause it.

Symptoms.—This disease begins with sickness and distress at the stomach, succeeded by violent gripings, with vomiting of thin, dirty yellowish, whitish, or greenish fluid, with discharges from the bowels similar to that vomited. The nausea and distress continue between the vomiting and purging, and the pain at times is intense. The pulse is rapid, soon becoming small and feeble, the tongue dry, the urine high colored, and there is much thirst, though no drink can be retained on the stomach.

Treatment.—Apply a large mustard poultice over the stomach and liver. Give large draughts of warm teas, by which means the stomach will be cleansed of all its solid contents. Every half hour give tablespoonful doses of the compound powder of rhubarb and potassa, until the vomiting is checked. Warm injections must be given frequently, and hot bricks applied to the feet, while the whole body should be swathed in warm flannels. To get up a warmth of the body and the stomach is, in fact, the most important thing in this disease. Hot brandy, in which is a dose of cayenne, is excellent to quiet the vomiting and griping. A few drops of laudanum in the injections may be given, if the pain is excessive; but generally it is not needed.

Either of the following have been found useful:—

Bicarbonate of Soda,	12 grains.
Common Salt,	6 grains.
Chlorate of Potash,	6 grains.

Mix, and take in cold water. Or the following:—

Acetate of Lead,	20 grains.
Opium,	12 grains.

Make into twelve pills, and take one every half hour until looseness ceases.

bring relief, a dose of salts, or sweet tincture of rhubarb may. If there is no sickness at the stomach, a little essence of peppermint in water, or brandy, or gin, in hot water, may be sufficient to expel the wind and give relief. If there be costiveness, and continued pain, a stimulating injection should be given.

Bilious Colic.

Bilious colic is a dangerous disease. There is griping, twisting, tearing pain about the navel, or sometimes over the whole belly.

Causes.—It is caused by irritating articles taken into the stomach, vitiated bile, long exposure to cold, torpid liver and skin, great unnatural heat, &c.

Symptoms.—It comes and goes by paroxysms. Sometimes the abdomen is drawn in, at other times swelled out, and stretched like a drum-head. At first the pain is relieved by pressure, but after a time the belly grows tender to the touch. There is thirst and heat, and a discharge of bilious matter from the stomach. In the worst cases, the pulse is small, the face pale, the features shrunk, and the whole body covered with a cold sweat.

Treatment.—Administer an active purgative injection immediately. Give a mixture of pulverized camphor, four grains; cayenne, twelve grains; white sugar, one scruple. This, divided into four powders, and given once in fifteen minutes, will relieve the pain,—at the same time a mustard-poultice should be laid upon the belly. The sickness of stomach may be allayed by hot drafts over the stomach, in which are a few drops of laudanum; also on the feet. Croton oil, one drop done up in a crumb of bread, will often purge successfully; or castor oil and spirits of turpentine, equal parts, in two tablespoonful doses, may be used before trying the other. A warm bath is good, and bottles filled with hot water, placed at the feet and sides, to promote perspiration.

Herbal, or Eclectic Treatment for Colic.

A good remedy for bilious colic is the tincture of ground walnut, made by stirring walnuts in sufficient diluted alcohol or whiskey to cover them. Let the mixture stand eight or ten days. Dose, a tablespoonful every half hour until relieved.

A decoction of equal parts of skull-cap and high cranberry bark, to which is added a tablespoonful of the compound tincture of

Virginia snake-root has been found very useful. Apply over the stomach and bowels hot fomentations of wormwood and boneset, or hops, stramonium leaves, or hops and lobelia.

In flatulent colic the legs should be bathed in warm water, and poultices of mustard or hot salt placed over the bowels and stomach. The bowels may be opened with a dose of castor oil, and ginger or peppermint tea may be drank freely. To ease the pain, from thirty to sixty drops of paregoric may be given. In very severe cases, a mixture compound of equal parts of laudanum, tincture of camphor, and essence of peppermint, in teaspoonful doses, may be given. In some cases, a teaspoonful of spirits of turpentine, taken with a teaspoonful of castor oil, has been found to give immediate relief. For painters', or lead colic, the following is highly recommended:—

Sulphate of Magnesia,	½ pound.
Powdered Alum,	1 ounce.
Sulphuric Acid,	1½ drachms.
Boiling Water,	1½ pints.

Mix. Dose, a tablespoonful in a wineglass of water; repeat every hour until it operates upon the bowels. To prevent the acid from injuring the teeth, the solution may be sucked through a quill or a glass tube. After the bowels have been freely opened, the medicine should be continued for weeks or months in doses sufficient to produce one or two passages every twenty-four hours. The sulphuric acid, by uniting with the oxide of lead in the system, forms the sulphate of lead, which is a harmless salt.

The following is recommended to be taken by persons who are exposed to the bad influence of lead:—

Elixir Vitriol,	½ ounce.
Tincture of Prickly Ash Berries,	1 ounce.

Dose, a teaspoonful in a gill of water, and repeat three or four times a day.

COSTIVENESS (*Constipation*).

An undue retention of the contents of the stomach, in which they are unusually hard, and expelled with difficulty and sometimes with pain.

Causes.—Neglecting the usual time in going to stool, extraordinary heat of the body, copious sweats, taking food that is dry,

heating, and difficult of digestion; sedentary life, or a diseased state of the liver or spleen, sometimes from stricture in the rectum.

Treatment.—The first thing to be done is to establish the habit of trying to evacuate the bowels every day at a certain hour; the best time for most people is just after breakfast. It matters not if the bowels do not act; the practice of attempting should be persisted in, and in time it will break up the confined state of the bowels. Adopt a diet free from all astringents, taking care especially that there is no alum in the bread, and using a coarser kind. Let the food consist of a due admixture of meat and vegetables for dinner; the beverage water. For breakfast, stale bread or dry toast, with a moderate quantity of butter, honey, fish, or bacon; cocoa, perhaps, is preferable to tea or coffee; and porridge made with Scotch oatmeal, probably better still. Regular exercise, either by walking or on horseback, should be taken. Roasted or boiled apples, pears, stewed prunes, raisins, gruel with currants, broths with spinach, leeks, and other soft pot-herbs, are excellent laxatives. If the above mode of living fail to relax the bowels, inject warm water by means of an enema. If there be an objection to the use of the foregoing, take of castor oil four parts, and of tincture of jalap, aloes, or rhubarb, one part; mix, and diligently rub over the region of the stomach every morning before rising; it should be done under the bed-clothes, lest the unpleasant odor should sicken the stomach. Or take either of the following:—Take from half a drachm to a drachm of dilute nitric acid in a cupful of weak ginger or dandelion tea, twice or thrice a day. Epsom salts, half an ounce; powdered nitre, one scruple; infusion of senna, four ounces; peppermint water, four ounces. Dose, two tablespoonfuls every morning.

Where the bowels are weak, uneasy, torpid, and where there is a general sense of coldness, and some aperient is absolutely required, have recourse to the following:—

Tincture of Rhubarb,	2 drachms.
Tincture of Senna,	2 drachms.
Potash Water, or Sal Volatile,	½ drachm.

Mix in a wineglassful of camomile tea, and take it every day at noon, or an hour before dinner, gradually reducing the dose, or leaving it off by degrees. The habitual use of purgative medicines is very injurious, and increase the evil they are intended to cure.

CRAMP, OR SPASM IN THE STOMACH.

A violent pain, but generally of short duration.

Treatment.—Give a strong purgative injection. The sweet tincture of rhubarb and soda, four ounces of the first to two drachms of the last, with a few drops of cayenne-tincture mixed with it, will often give relief. Dose, from a teaspoonful to a tablespoonful. A mustard poultice on the stomach is very good. Drink copious draughts of hot water, brandy and water, ether, or laudanum; apply hot flannels moistened with compound camphor liniment and turpentine; bathe the feet in warm water, or apply mustard poultices to them.

DIARRHŒA.

Causes.—The causes which produce diarrhœa are—bad and indigestible food, or food taken in too great quantities; acid fruits, or oily and putrid substances taken into the stomach; the abuse of active purgative medicines, the application of cold to the body, the suppression of perspiration, long-continued heat of the atmosphere, a transfer of gout or rheumatism to the intestines, and depressing passions of the mind.

Symptoms.—This disease consists in a copious and frequent discharge of feculent matter from the bowels, accompanied by griping. There is a sense of weight and fullness in the lower part of the stomach, attended with a murmuring noise, arising from the presence of a great collection of wind. This feeling is relieved after every evacuation which takes place, and is again renewed before a second ensues. In addition to these symptoms, the patient is troubled with nausea, sickness, vomiting, and, if the purging be not quickly arrested, by great exhaustion and depression of the vital powers, accompanied by spasm and cramp. It is distinguished from dysentery by the absence of fever, inflammation, contagion, and straining at stool, and also by the absence of blood in the motions. The appearance of the motions in the commencement of the disease is sometimes thinner than natural, in consequence of a large quantity of fluid being poured out by the intestines. They are sometimes slimy and of a green color; sometimes they are yellow, and sometimes of a dark brown, accompanied by a very fetid smell. As the disease advances the motions become very watery, and similar to coffee grounds; the strength rapidly fails, the countenance turns

pale, the skin is dry and stiff, great emaciation takes place, and dropsy frequently ensues.

Treatment.—In the treatment of this disease, attention must be paid to the cause which produces it, and the remedies administered accordingly. If it arise from repletion of the stomach, or from indigestible food, a gentle emetic of ipecacuanha should be given (say twenty grains). This should be followed by an aperient, to clear out any offensive matter that may remain in the intestines. The following will be a good draught:—

Powdered Rhubarb,	1 scruple.
Cinnamon Water,	1½ ounces.
Compound Spirit of Lavender,	2 drachms.

Make a draught to be given at bed-time.

Should the motions be scanty and frequent, and accompanied by some degree of bearing down, four or six drachms of castor oil, with five drops of tincture of opium, will afford great relief. This treatment will also suit in cases where oily and putrid substances have been taken into the stomach. If it arise from the abuse of purgative medicines, they must be discontinued, and the following mixture administered:—

Tincture of Rhubarb,	1 ounce.
Tincture of Opium,	30 drops.
Spirit of Lavender,	4 drachms.
Cinnamon Water,	5 ounces.

Make a mixture, and take two tablespoonfuls every four or six hours.

If it has proceeded from the application of cold to the surface of the body, or the suppression of perspiration, every effort must be made to restore the secretion by the administration of medicines which determine to the skin, such as James's or Dover's powder: five grains of the former, or ten of the latter, will be sufficient for a dose, which may be taken in a little gruel or arrow-root. The patient should immerse his feet in warm water every night; and should the looseness continue, he may take the following powder three times a day:—

Dover's Powder,	3 grains.
Mercury with Chalk, or Grey Powder,	2 grains.

Mix. When it arises from acidity in the stomach, which is known by frequent eructations of air diffusing a hot and disagreeable sen-

sation in the mouth, griping pains in the belly, accompanied by motions of a clay color, which produce a burning sensation at the rectum in passing through, absorbents with opium must be employed. The following will be a good form of mixture:—

Prepared Chalk,	3 drachms.
Spirit of Lavender,	2 drachms.
Compound Tincture of Cardamoms,	2 drachms.
Tincture of Opium,	½ drachm.
Cinnamon Water,	6 ounces.

Make a mixture, and take two tablespoonfuls every three or four hours until the relaxation ceases.

Should it arise from a transfer of the gout or rheumatism, fomentations of hot water, mustard plasters, or blisters, should be applied over the bowels; the patient's feet should be immersed in hot water, and ten grains of Dover's powder administered to produce perspiration. At the same time he should drink plentifully of weak brandy and water, or wine whey.

Should it arise from the presence of worms, which is recognized by the slimy motions, and the presence of the worms themselves, either in a living or dead state, the remedies recommended among the prescriptions for their expulsion should be had recourse to.

When it arises from ulceration of the intestines, as often happens in consumption and other protracted diseases, the most effectual astringents, in addition to what has been already recommended, should be employed,—such as catechu, kino, alum, logwood, tannin, white and blue vitriol. The following is a good mixture in these cases:—

Chalk Mixture,	5 ounces.
Tincture of Catechu,	4 drachms.
Tincture of Kino,	3 drachms.
Syrup of Poppies,	2 drachms.
Tincture of Opium,	30 drops.

Make a mixture, and take two tablespoonfuls three or four times a day.

The diet in these cases should consist of sago, arrow-root, and rice-puddings made with or without milk, or they may be given in a liquid form; all solid food should for a time be suspended. It will be necessary for those persons who are subject to frequent attacks of this complaint, either from a peculiar weakness or irrita-

bility of the bowels, to live temperately, to avoid all acid fruits, most kinds of vegetables, unwholesome food, and meats of hard digestion.

Herbal, or Eclectic Treatment for Diarrhœa.

If caused by cold or obstructed perspiration, keep the patient warm; drink freely of weak diluting drinks; use the tepid bath, and wear flannel next the skin. A little snake-root tea will also be found useful. If there is much griping, a hot fomentation of garden mint should be applied to the stomach. Speedy relief has been effected by taking twelve drops of laudanum in half a gill of the best brandy. Repeat, if necessary, in about an hour. When diarrhœa is caused by excessive repletion, give an emetic composed of half a drachm of ipecacuanha; work it off with warm water or thin gruel. If, after a day or two, the looseness continues, give half a drachm of rhubarb once or twice a day.

In obstinate cases, the jelly of slippery elm and blackberry, in equal parts, mixed with a little powdered ginger or cinnamon, may be used. For chronic looseness, the following decoction is very good:—

Bistort root, bruised, three ounces; water, one quart. Boil twenty minutes; then add cloves, bruised, one ounce; cranesbill and wild mint, of each half an ounce; catechu, two drachms. Boil ten minutes longer, strain, add loaf sugar, one pound. Dose, three tablespoonfuls three or four times a day.

The following has also been used with excellent results:—

Take equal parts of tincture of rhubarb, spirits of camphor, essence of peppermint, and laudanum. Dose for an adult, one teaspoonful every hour, if necessary; less according to age of the patient and severity of the disease.

DYSENTERY.

A disease accompanied by frequent and scanty motions, and great bearing down of the rectum. Stools, mucous or bloody, slimy, and containing little or no fœcal matter.

Causes.—The causes which produce this disease are—a cold and moist state of the atmosphere, quickly succeeded by heat; the suppression of the perspiration, whereby the blood is thrown from the external upon the internal vessels; immoderate use of spirituous

liquors, unwholesome food, exposure to noxious exhalations, or to the effluvia arising from the bodies of persons laboring under the disease.

It is supposed that dysentery, when it proves infectious, is owing to the impure and vitiated condition of the atmosphere; hence it frequently appears in hospitals which are not properly ventilated, and other places where a number of sick persons are crowded together; while in situations where great attention is paid to ventilation and cleanliness, it seldom extends beyond the individual in whom it originates. It prevails epidemically, affecting numbers in a community, without being contagious.

Symptoms.—This disease is ushered in by all the concomitants of inflammatory fever—such as cold shivering succeeded by heat of skin, frequency of pulse, loss of appetite, sickness, and costiveness. This stage is quickly followed by severe griping pains, and pain on pressing the belly, frequent desire to go to stool, accompanied by great straining and painful bearing down of the rectum—the evacuations consisting of a peculiarly fetid matter, without containing any particle of healthy motion. These evacuations frequently vary in their appearance, being sometimes pure mucus, or mucus streaked with blood; sometimes pure blood is passed, at other times pure matter, and it not unfrequently happens that pieces of membrane, arising from ulceration of the lining of the intestines, are seen floating in the dejetions. It is seldom that any natural feces appear in the course of this disease, but when they do, they are passed in hard, small balls, accompanied by great relief of the griping and bearing down.

Favorable Symptons.—A gentle perspiration over the surface of the body, the stools improving in color, and becoming less frequent; a sediment in the urine, and the strength little impaired.

Unfavorable Symptoms.—The tenesmus or bearing down of the gut becoming very intense, the inclination to go to stool more frequent, the discharge from the bowels being very scanty and of an unnatural color; much depression of the powers of life, a tense state of the belly, cold, clammy perspirations, ulceration of the mouth and throat, a feeble pulse, and coldness of the surface of the body.

Treatment.—If the fever be of an inflammatory character, accompanied with rigors and succeeded by heats and flushes, an emetic should be administered at once (say twenty grains of ipecacuanha and one of tartar emetic). This should be followed by a dose of

castor oil, or some saline aperient, which should be repeated every second or third morning, so that evacuations of a natural character might be procured. The following is a good mixture for this purpose :—

Epsom Salts,	1 ounce.
Best Manna,	½ ounce.
Peppermint Water,	5 ounces.
Tincture of Rhubarb,	2 drams.

Mix. Four tablespoonfuls to be taken every second or third morning.

Should there be much pain on pressing the belly, leeches, in numbers according to the age and strength of the patient, should be applied, which should be followed by fomentations of the decoction of poppy heads and camomile flowers. The purgatives already recommended should be continued every second morning, and in the interval small doses of Dover's powder and calomel should be given every four or six hours. With the object of relieving pain and producing perspiration, five grains of Dover's powder and one of calomel will form a sufficient dose, which should be continued until the pain and irritation be tranquilized, or the mouth becomes tender. These remedies should be followed by mustard plasters, or blisters, to the stomach, which have the power of relieving pain and stopping the violent sickness which frequently takes place in this disease. Relief will also be found from the application of soothing liniments over the abdomen, such as the following :—

Camphorated Oil,	1 ounce.
Tincture of Opium,	½ ounce.

The belly to be rubbed with this oil several times a day. Camphorated oil is made by dissolving half an ounce of camphor in two ounces of sweet oil.

In order to relieve the tenesmus or bearing down, injections consisting of starch, or mutton broth, and tincture of opium, say half a dram, or even a dram, should be thrown into the rectum ; or, should these not be retained, or fail to afford relief, two grains of opium, made soft with a little oil or conserve of roses, introduced into the rectum, will be found very serviceable. In employing the injection, a small quantity of fluid should be used, say not more than two ounces, as more in quantity will not be retained ; and in

introducing the opium, care should be taken to put it beyond the sphincter muscle, at least two inches from the verge of the anus. The bowels should be kept open with castor oil combined with small doses of laudanum, say half an ounce of the former, and ten drops of the latter. In the advanced stage of this disease, great benefit will be derived from the following mixture:

Diluted Nitric Acid,..... 2 drams.
Laudanum,.....1½ drams.
Distilled Water,.....14 drams.

Mix. A teaspoonful to be taken four times a day in a cup of barley water.

When there is acidity in the stomach, absorbents combined with opium will be required, such as chalk, kino, catechu, and logwood. The patient should at the same time drink port wine and water with his meals; as a common drink, equal parts of lime-water and milk have been highly recommended.

In those cases where the motions are passed frequently, from a weakened state of the bowels, the greatest benefit will be derived from the sulphate of zinc, alum, sugar of lead, and blue vitriol, in combination with opium. In a more advanced state of the disease, vegetable tonics should be administered for the purpose of giving tone to the muscular coat of the intestines, and of improving the health generally. The following is an excellent mixture for this purpose:

Infusion of Cascarilla,.....5 ounces.
Tincture of Colombo,.....1 ounce.
Tincture of Catechu,.....2 drams.
Diluted Nitric Acid,.....1 dram.

Mix. Three tablespoonfuls three times a day.

In those cases where there is a tenderness over the region of the liver, and a dusky, sallow appearance of the countenance, and the motions are of a clayey color, a grain of calomel, with one quarter of a grain of opium, may be given twice or three times a day, with great advantage, which should be continued until all bad symptoms give way, or until the mouth becomes tender.

The patient should live, at the commencement of the disease, on preparations of barley, rice, sago, flour, tapioca, and Indian arrow-root boiled in milk, and broths occasionally should be allowed. The juice of meat is preferable to broths or soups, which often sour on

the stomach; this may be obtained by chewing the meat, and rejecting all except the juice. He should avoid all spirituous and fermented liquors, and food of all descriptions which have a tendency to putrefaction. During his convalescence or recovery, meat of the lighter kinds, such as mutton, chicken, or beef, may be used, and he should drink port wine and water or brandy and water at his meals.

As dysentery is considered by most physicians to be contagious, the greatest care should be taken to secure a good ventilation, particularly where persons are crowded together, as on board ship or in hospitals. The sick should be immediately removed from the healthy; they should be placed in separate rooms, if possible; their motions should be taken away as soon as passed, the body linen and sheets frequently changed, and the rooms fumigated with the solution of chloride of lime or boiling vinegar. The following is a cheap and easy method of fumigating, for the purpose of destroying contagion arising from dysentery, small pox, typhus fever, or any other infectious disease:

Peroxide of Manganese,	2 parts.
Common Salt,	4 parts.
Oil of Vitriol,	3 parts.
Water,	1 part.

This mixture should be placed in an earthenware vessel, and allowed to remain in the room until all vapors cease to rise. A greater quantity of this vapor, which is chlorine gas, may be obtained by putting the same mixture in an oil-flask and applying heat. Of course this method of fumigating cannot be resorted to until the patients are removed from the rooms or places about to be fumigated, as the vapor cannot be breathed without producing great irritation of the lungs; and when existing in any great quantity in the atmosphere is fatal to life.

Herbal, or Eclectic Treatment for Dysentery.

An emetic composed of half a dram of ipecac in powder, must be given; work off with weak camomile tea. After which take one ounce of Epsom salts, half an ounce of manna, and two and a half ounces of warm water, and the same of peppermint water. Dose: four tablespoonfuls three or four times a day. The following has been found very beneficial:

Take one tablespoonful of common salt and mix it with two tablespoonfuls of vinegar, and pour upon it a half pint of water, either hot or cold, only let it be taken cold. A wineglassful of this mixture in the above proportions, taken every half hour, will be found quite efficacious in curing dysentery. If the stomach be nauseated, a wineglassful taken every hour will suffice. For a child, the quantity should be a teaspoonful of salt and one of vinegar in a teacupful of water.

Blackberries are extremely useful in cases of dysentery; to eat the berries is very healthy. Tea made of the roots and leaves is very beneficial; and a syrup made of the berries is still better. The following is also very useful:

Bistort root, tormentil root, ginger root, each (sliced and bruised) one ounce; green peppermint and wood sage, of each one ounce; Turkey rhubarb and gum myrrh, of each half an ounce; cinnamon, two drams; water, two quarts. Boil down to three pints; strain. Pour the boiling liquor on to loaf sugar, half a pound; bicarbonate of potash, half an ounce. Then add tincture of myrrh, one ounce; spirit of camphor, two drams; oil of peppermint, twenty drops (put those together before adding to the liquor). Dose: a wineglassful every fifteen minutes until relief is got.

DYSPEPSIA (*Indigestion*).

This is one of the most common ailments to which mankind is subject, there being few individuals who have not experienced it oftener than once in their lives.

Causes.—Accidental fits of indigestion are of frequent occurrence, and arise for the most part from overloading the stomach with food, and indulging freely in wine, spirits, or other intoxicating liquors. Confirmed or chronic indigestion may depend on debility or want of tone of the stomach, or it may be caused by the lining or mucous membrane of this organ being in a state of irritation or chronic inflammation One of the most frequent causes of indigestion is not masticating the food we eat properly, by which such food is bolted, instead of being reduced to a natural pulp, thereby presenting to the digestive organs a hardened mass, which it has the greatest difficulty to operate upon. Another cause is habitual inattention to diet, both as regards the quality and quantity of food, irregularity in the times of eating, drinking large quantities of warm, relaxing fluids, and using malt liquors too freely. A third cause is insufficient

exercise; a fourth cause, impure air; and, beside these, there are numberless other causes, which in a greater or less degree exercise their baneful influence upon this vital and all-important function of our natures.

Symptoms.—One of the most frequent signs of indigestion is a loss of appetite, no desire for food, or, perhaps, even an absolute repugnance and disgust at the very thought of eating. Sometimes the appetite is capricious and uncertain, or may even be morbidly craving and ravenous. Sometimes nausea comes on immediately after the food is swallowed; and sometimes without any nausea, but after the lapse of some time, the food is ejected by vomiting. There is also usually an obscure feeling of uneasiness, fullness, distension, and weight in the region of the stomach, occasionally amounting to pain, or even severe pain, with flatulence and eructation. Some persons suffer pain when the stomach is empty, others immediately after taking food, or the pain may not begin for two or three hours after a meal, and then continue for some hours. Sometimes the pain comes on at uncertain intervals in the most violent paroxysms, accompanied by a sensation of distension, much anxiety, and extreme restlessness. Costiveness is a very frequent concomitant of dyspepsia, but sometimes it is attended with diarrhea. Among the innumerable disorders in more distant parts that are produced by dyspepsia are palpitations of the heart, irregularities of the pulse, asthma, pain in the head, with the loss of mental energy, and some confusion of thought. One of the worst of the occasional concomitants of dyspepsia is that state of mind which is known as hypochondriasis. There is languor, listlessness, or want of resolution, with an apprehension of some great evil in the future. Such persons are particularly attentive to the state of their own health, and, from any unusual feeling, perhaps of the slightest kind, they apprehend great danger, or even death itself.

Treatment.—Before we proceed to give the remedies applicable to this disorder, we will lay before our readers what is of equal consequence, both as regards prevention and cure—namely, diet and regimen. Rise early; sponge the body freely with cold water; breakfast without taking previous exercise, except a saunter in the garden. At breakfast, drink no more than half a pint of tea, neither too strong nor too weak, and black tea in preference to any other. Eat a slice or two of stale bread, together with a thin rasher of streaky bacon. After a short rest, exercise should then be taken

for two hours or upwards. The dinner hour should be not later than four or five hours after breakfast, and the best time in the day for this meal is one or two o'clock. The food should be plain, without sauces. Roast mutton is the best of all meats, both as regards its nourishing properties and the ease with which it can be digested. For drink water, or toast and water are preferable. After dinner, rest and quiet for an hour are desirable. About four or five hours after dinner, a cup of tea with a biscuit, or bread and butter, with fresh or preserved fruit. To bed between ten and eleven o'clock. This mode of living will generally render a person exempt from habitual indigestion; nevertheless, in spite of these precautions, occasional attacks of this derangement will make themselves felt, when either of the following may be taken:—

Bay Berries,.....6 drams.
Grains of Paradise,.....2 drams.
Socotrine Aloes, and Filings of Iron, of each,.....2 scruples.
Oil of Turpentine,.....2 drams.
Simple Syrup, sufficient for an electuary.

Take a piece the size of a nutmeg night and morning.

Rhubarb, ...15 grains.
Sulphate of Potass,.....30 grains.
Tincture of Senna,..... ½ a dram.
Peppermint Water,.....1½ ounces.

Mix, and take twice a week until relief is afforded.

Columba Root in powder,..... 8 grains.
Rhubarb,.....10 grains.
Ginger,..... 2 grains.
Ipecacuanha,..... 3 grains.
Carbonate of Potass,..... 5 grains.
Dill Water,.....1½ ounces.

Mix for a draught, and take twice a day on an empty stomach.

Infusion of Gentian,.....12 drams.
Epsom Salts,..... 3 drams.
Tincture of Cascarilla,..... 1 dram.
Tincture of Orange Peel,..... 1 dram.

Mix for a draught, which may be taken in the morning on rising, and repeated in six hours.

Quicklime, slaked with a little water,..... ½ ounce.
Water, ...1½ pints.
Bruised Cinchona Bark,.....1 ounce.

Cover and macerate for three hours, occasionally stirring them; decant the clear liquor, and add the following:—

Tincture of Bark,.....2 ounces.
Nitric Ether,.....3 drams.
Syrup of Orange Peel,.....1 ounce.

Mix, and keep closely corked. Dose, one wineglassful.

HEARTBURN.

What is commonly called heartburn is not a disease of the heart, but an uneasy sensation of heat or acrimony about the pit of the stomach, accompanied sometimes by a rising in the throat like water.

Causes.—Debility of the stomach; the food, instead of being properly digested and turned into chyle, runs into fermentation, producing acetic acid; sometimes the gastric juice itself turns acid, and causes it; at other times, it arises from bilious humors in the stomach.

Treatment.—Either of the following may be used:—One teaspoonful of the spirit of nitrous ether, in a glass of water or a cup of tea. Or this:—A large teaspoonful of magnesia, taken in a cup of tea, or a glass of mint-water.

INFLAMMATION OF THE LIVER.

This disease is known by a painful tension of the right side under the ribs, attended with some degree of fever, a sense of weight or fullness of the part, difficulty of breathing, loathing of food, great thirst, with a pale or yellowish color of the skin and eyes.

Treatment.—Take care to avoid stimulating food and drinks; partake freely of barley-water or linseed-tea. Keep the body and mind easy and quiet as much as possible. Let the bowels be gently opened; a decoction of tamarinds, with a little honey or manna, will answer this purpose very well. Foment the side affected by means of flannels wrung out in hot water. If the pain be very violent,

apply a blister. Take three or four times a day in the beverage ordinarily drank a teaspoonful of the spirit of nitric ether. When there is an inclination to perspire, let it be promoted by copious draughts of warm diluting liquors. If the disorder, in spite of all endeavors, should continue obstinate, the greatest attention must be paid to the diet, avoiding fish, flesh, and salted and seasoned foods. The patient should live for the most part on vegetables and fruits, and drink whey, barley-water, or buttermilk. Gentle exercise must also be taken.

INFLAMMATION OF THE SPLEEN

is often the result of chills and fever, and is very difficult and stubborn to cure.

Symptoms.—A feeling of tightness and pain in the left side—the pain being increased on pressure, or by lying upon the left side. Sometimes the organ enlarges, so as to be felt by the hand. There is sometimes numbness, weakness of the legs, palpitation of the heart, difficulty of breathing, inability to exercise much, obstinate constipation, vomiting of food, piles, dry skin, tongue coated white or red, low spirits, and occasionally dropsical affections.

Treatment.—Treatment should be about the same as in inflammation of the liver. After the active inflammation is subdued, the warm bath may be used once or twice a week. In the chronic form of the disease, counter-irritation with the compound tar-plaster, with mustard-poultices, croton oil, or tincture of iodine, will be particularly needed. Keep the bowels open, and, if the patient is pale and bloodless, give iron as a tonic.

INFLAMMATION OF THE STOMACH—(*Gastritis*).

It is known by pain in the epigastric region, increased when anything is taken into the stomach, together with vomiting and hiccough; the pulse small and hard; and general prostration of strength, attended by fever and anxiety. It is produced by poisons of various kinds taken into the stomach, as arsenic or corrosive sublimate; by food of an improper nature; by draughts of any cold liquid when the body is much heated.

Treatment.—In the treatment of this disease bleeding is now generally disapproved of, except perhaps in very extreme cases.

Warm fomentations to the region of the stomach, or the hot bath, should be had recourse to, and much relief will often be experienced from the sucking of ice. Mucilaginous drinks, barley-water, or gruel will be of service, particularly when occasioned by the presence of acrid substances, in aiding their evacuation and protecting the stomach. Enemata are a class of medicines that are of much use, by acting upon the system without coming in contact with the stomach. In most cases a purgative enema should first be given, and afterward such as are nutritious.

GALL STONES.

Gall stones are calculous concretions, sometimes formed in the bladder, from the peculiar crystalline ingredient of the bile termed *Chloresterine;* they vary greatly in size, some being smaller than a pea, and some as large as a walnut; they often remain in the bladder without causing any uneasiness; but, when one of any considerable size passes into the duct, it gives rise to violent spasmodic pains, which cease only when the stone has effected its passage into the bowels. The gall duct is, in calibre, no larger than an ordinary goose quill, and therefore this operation is often a difficult and protracted one; its symptoms are agonizing pain in the region of the bladder, often accompanied by shivering and vomiting; when the obstruction has passed into the common duct, and so stopped the flow of bile from the liver, there will be jaundice, with white and chalky evacuations. When there are these symptoms, with absence of pain on pressure, and no fever, we may safely conclude that inflammation is not the exciting cause, but gall stones; their presence in the feces may be easily detected, as they float upon water.

Treatment.—The proper treatment in an attack of this kind is hot applications over the seat of pain, or a warm bath. A draught should at once be given of laudanum, a full dose of thirty drops, following it up with twenty drops every half hour or so, until the severe pain is relieved; if the patient retches much, and liquids cannot be retained, pills of solid opium, one grain each, had better be administered. There is commonly great acidity of the stomach while gall stones are passing; hence an alkaline draught is of service, say half a teaspoonful of carbonate of soda in a good quantity of warm water; the laudanum may be added to this. Should the stomach reject these remedies, the anodyne must be administered in

a clyster, of about forty drops of laudanum in a pint of thin gruel. Hot bran poultices, sprinkled with laudanum, may be applied to the seat of pain.

The following is a good solvent mixture where gall stones are known to be present: Castile soap, two drams—melt by heat in half a pint of water; add spirits of turpentine and ether, of each two drams; take a tablespoonful three times a day.

ACUTE INFLAMMATION OF THE BOWELS.

This is an inflammation of the mucous membrane which lines them, as it is generally understood, but really involves more or less the whole substance of the bowel.

Symptoms.—The disease begins with a chill, and with uneasiness and slight griping pains, which increase in severity until they are intense and burning. Pressure aggravates the pain, which is greatest about the navel, but extends over the whole bowel. There is sickness at the stomach, and sometimes vomiting; loss of strength, costiveness, great anxiety, thirst, heat, and fever; dry, furred, and red tongue, and but little urine, with pain in passing it. The matters passed from the bowels are dark and fetid, and the whole belly is sore to the touch. The pulse is quick, hard, and small. If the stomach sympathizes but little with the disease, it indicates the seat of it to be in the lower portion of the bowels. The length of time, also, before drink and medicine are vomited up after being swallowed, is a pretty sure indication of the distance of the disease from the stomach. To discriminate this disease from colic, it is necessary to know that pressure produces pain, which it does not in colic; the pain never wholly ceases, as it does in colic; the knees are drawn up and the breathing short, or altered, as they are *not* in colic.

Treatment.—Hot fomentations, mustard-poultices, soothing and quieting injections, cooling drinks, such as slippery elm, flaxseed-tea, etc., with tincture of veratrum viride in full doses, or ten drops every hour, to keep up a free perspiration, will generally be all that is necessary.

If the disease has been occasioned by the strangulation of a gut, or by hernia, it is very unmanageable. The gut may be disentangled by applying a *large* dry cup, or, what is better, a number of small ones, but the tenderness of the belly makes this difficult.

CHRONIC INFLAMMATION OF THE BOWELS.

The signs of this disease are a dull pain in the belly, the tongue bordered with red, abdomen either swelled or flat, skin dry and husky, cold extremities; small, frequent pulse; thirst, loss of flesh, low spirits, scanty urine, slimy discharges from the bowels from one to four times a day.

Treatment.—The treatment commences with mustard poultices and hot fomentations. Cold compresses at night—the body well covered up in flannel—should be used if the bowels are very feverish, and the warm bath twice a week, taking care not to get cold. The diet must be very simple and unstimulating—beginning with gum water, rice or barley water, sago or arrowroot gruel, and gradually raising it to chicken broth, beef tea, or tender beefsteak. Gentle carriage exercise, as soon as the patient is able, will prove beneficial. A very mild laxative should be given on the inflammation being subdued.

INFLAMMATION OF THE PERITONEUM.

Peritonitis is an exceedingly painful and dangerous disease, from its extent and connection with important organs. It may exist either as an acute or chronic disease.

Causes.—Its causes are various, as cold, mechanical injuries of the peritoneum, the development of tumors, etc. Women in childbed are peculiarly liable to it. After the disease has continued for a certain time, it is attended with tension and swelling of the belly, and if not checked it usually terminates in from five to ten days.

Symptoms.—There is usually great pain and tenderness of the abdomen, accompanied with fever, and a frequent, small, hard pulse. Sometimes, at first, the pain is confined to one spot; but it generally soon extends over the whole of the abdomen. It is very severe, and much increased by any motion, even coughing, sneezing, or drawing a long breath. Even the weight of the bedclothes is sometimes unbearable. It is acute and cutting, and sometimes occurs in paroxysms; and the patient usually lies on his back with his knees drawn up. The bowels are usually constipated, but sometimes the reverse; and commonly there are present nausea, vomiting, and hiccough.

Treatment.—The treatment consists in the application of warm fomentations to the abdomen, together with blister or leeches, if necessary. General bleeding is sometimes recommended, but this can only be adopted or of service when the patient is strong and of full habit. As internal remedies, most reliance is usually placed upon mercury and opium. After a time, peritonitis sometimes assumes a chronic form. Here the symptoms are less marked. The pain is slight, or only discoverable on pressure, and the fever low; but the skin is hot and dry, the tongue foul, and appetite impaired. The treatment is local bleedings, with blisters and other counter irritants applied over the abdomen. A nourishing but unstimulating diet, and attention to the state of the bowels, are likewise necessary; and some recommend iodine, either taken internally or applied as ointment to the part.

JAUNDICE.

A disease arising from obstruction to the passage of the bile into the intestines, from disorders of the liver.

Treatment.—The diet should be cool, light, and diluting—consisting chiefly of ripe fruit and mild vegetables; the drink, barley water or linseed tea, sweetened with licorice; the bowels must be kept gently open. When the disease has abated, constant doses of Peruvian bark should be given, with good port wine; plenty of exercise taken, and a mustard poultice occasionally placed over the liver. The following has been of great benefit: Remain in a warm bath, of one hundred degrees, for twenty minutes. Take, every other night, five grains of blue pill, and five grains of compound aloe pill on those nights when the blue pill is not ordered. In addition, take twenty drops of elixir of vitriol, in a wineglassful of infusion of gentian, twice a day. Or take either of these:

Castile Soap,..... 1 ounce.
Oil of Juniper,.....30 drops.

Mix well together, and divide the mass into ninety-six pills, two to be taken twice a day.

Hard Soap,..... 4 drams.
Compound Powder of Cinnamon,..... 1 dram.
Rhubarb, ... 2 drams.
Oil of Juniper,.....16 drops.
Syrup of Ginger,.....sufficient.

Form the whole into one hundred pills, of which three are to be taken morning and evening.

Herbal, or Eclectic Treatment

As the stomach is usually disordered, it is well to give an emetic, and after it has acted freely administer a gentle purge. Should there be coldness about the feet or body, use the hot bath, or bathe the whole body with hot vinegar and water. A decoction made of dandelion and barberry root may be drank freely. If these do not give immediate relief, take the following:

Golden seal and capsicum, of each 1 dram; bitter root and white poplar bark, of each 2 drams; cover with boiling water. When cool, add half a pint of Holland gin. Dose: a wineglass three times a day.

A strong tea of peach-tree leaves, about half a pint taken daily; or from ten to forty drops of the tincture of blood root, taken three times a day, either in water or herb tea, have been highly recommended.

MILK SICKNESS.

A disease chiefly confined to the West, where the cattle roam about at large in woods or over prairies. The plant the eating of which causes the milk to be poisonous is not known.

Symptoms.—Sickness at the stomach, weakness and trembling of the legs. There is vomiting, and a peculiarly offensive breath. These symptoms continue for weeks, and are often all that are shown in this complaint; but in some severer cases there are chills and flashes of heat, great oppression about the heart, anxiety, deep breathing, heat in the stomach, violent retching and vomiting, alarming beatings of the heart, and throbbing of the large vessels, and cold extremities. In most cases, the vomiting returns every hour or two, attended by a great burning at the pit of the stomach, the substance thrown up having a peculiar bluish-green color, and a sour smell. As soon as this discharge takes place, the patient falls back upon the pillow, and lies easy until another turn comes round. The tongue is covered with a whitish coat, and the bowels are obstinately costive. The pulse is small and quick.

Treatment.—The treatment cannot vary much from that pursued for inflammation of the stomach, though the neutralizing extract often suffices to allay the nausea and burning sensation. Some anti-bilious physic, to move the bowels should be given.

Neutralizing Extract.—Take two pounds of the best rhubarb, one pound each of cinnamon and golden seal. Grind or bruise the articles, and mix them;

macerate them for two days in a gallon of the best fourth-proof brandy. Then express the tincture with strong pressure, and add to it one fluid dram of oil of peppermint, previously dissolved in a little alcohol. Take the residue remaining after the pressure, and placing it in a sieve or percolator, gradually run warm water through it until its strength is exhausted. Evaporate this infusion to four pints, and while the liquor is still hot, dissolve in it two pounds of bicarbonate of potassa, and three pounds of refined sugar. Continue the evaporation, if necessary, until, when added to the first tincture, it will make a gallon and a half; then mix the two solutions. Dose: one fluid dram. Good for dysentery and cholera morbus.

NAUSEA.

A sensation of sickness, with an inclination to vomit. Although the feeling of nausea itself is referred to the stomach, and may be due to causes connected with that organ simply, it also frequently originates in disorder in other and distant parts of the body.

Treatment.—Clear the stomach by an emetic of ipecacuanha, and afterward the bowels by two or three grains of crlomel at night, followed by a black draught in the morning; also take hydrocyanic acid, in doses of from one to three drops, with five grains of bicarbonate of soda, every two, three, or four hours, in a glass of water. If the foregoing should fail, two or three leeches may be applied to the pit of the stomach, and one grain of calomel, with three grains of chalk or magnesia, laid on the tongue in powder, and swallowed gradually every four or six hours. So long as the stomach is in a state of irritation, only small quantities of food should be introduced into it at one time, as a spoonful of milk or beef tea every hour. A teaspoonful of magnesia in a glass of sherry, or lemon juice in small quantities, taken from time to time, have proved beneficial.

PILES.

These consist of small tumors, situated on the extremity of the great gut, called the retum. The piles are usually accompanied by a sense of weight in the back, loins, and bottom of the belly, together with pain in the head, sickness at the stomach, and flatulence in the bowels. If the tumor break, a quantity of blood is voided, and considerable relief from pain is obtained; but if they continue unbroken, the patient experiences great pain.

Treatment.—The following treatment will generally prove beneficial:

Lenitive Electuary, ...1 ounce.
Flour of Sulphur,.....1 ounce.
Jalap, in powder,.....1 dram.
Balsam of Copaiba,..... .....½ ounce.
Ginger, in powder,..... .....½ dram.
Cream of Tartar,..... ... .½ ounce.
Syrup of Ginger, a sufficient quantity to form the whole into an electuary.

Mix. Take a teaspoonful every three hours, until the bowels are freely open. At the same time make use of the following lotion:

Goulard Water,.....6 ounces.
Laudanum,.....1 ounce.

Mix, and apply to the parts repeatedly.

When the piles are very painful and swollen, but discharge nothing, the patient should sit over the steam of hot water. He may also apply a linen cloth, dipped in warm spirits of wine, to the upper part, or make use of bread and milk poultices.

Either of the following may be used with advantage:

Powder of Oak Galls,..... .....1 ounce.
Elder Ointment,.....1 ounce.

Mix, and anoint the parts night and morning.

Sublimed Sulphur,..... ½ ounce.
Cream of Tartar,.....1½ drams.
Lenitive Electuary, ...1 ounce.
Syrup sufficient to form an electuary.

A teaspoonful to be taken at bed-time.

Powdered Nut Gall,.....2 drams.
Camphor, ...1 dram.
Melted Wax,.....1 ounce.
Tincture of Opium,.....2 drams.

Mix, and apply as ointment to the parts.

SEA SICKNESS.

This depends upon a peculiar state of the brain, apparently caused by a want of the usual firmness and steadiness of the equilibrium of the body.

Treatment.—Take of camphorated spirit, sal volatile, and Hoffman's ether, a few drops each, upon a lump of sugar. Persons about to proceed to sea should put their stomach and bowels in order by the use of mild aperients, and even an emetic if required; when it will be generally found that a glass of warm and weak brandy and water, to which one or two drops of creosote have been added, will effectually dispel any disposition to sea sickness. As the vessel descends draw in the breath, and as it ascends exhale the breath. This prevents the movements of the organs which act immediately upon sea sickness. Observe perfect quietude in the recumbent position, until the body is accustomed to the motion of the vessel; take frequently two or three spoonfuls of strong coffee; or twenty drops of hydrochloric ether. Hold fast by the ropes on the side of the ship, so as to move with all its motions, becoming, as it were, part of the vessel.

VOMITING.

This may arise from various causes, as excess in eating and drinking, foulness of the stomach, the acrimony of aliments, sudden stoppage of wounds, weakness of the stomach, etc.

Treatment.—When vomiting proceeds from foul stomach or indigestion, it is not to be considered as a disease, but as the cure of a disease. It ought, therefore, to be promoted by drinking lukewarm water or thin gruel. If this does not put a stop to the vomiting, a dose of ipecacuanha may be taken, and worked off with weak camomile tea. If vomiting proceed from weakness of the stomach, bitters will be of service. Peruvian bark infused in wine or brandy, with as much rhubarb as will open the body gently, is an excellent remedy in this case. The diluted acid of vitriol is also s good medicine, and may be taken in the dose of fifteen or twenty drops, twice or thrice a day, in a glass of wine or water. It has been said that habitual vomitings are alleviated by making oysters a principal part of diet. A vomiting which proceeds from acidity of the stomach is relieved by alkaline purges. The best medicine is magnesia, a teaspoonful of which may be taken in a cupful of tea or a little milk, three or four times a day, or oftener, if necessary to keep the body open. When vomiting proceeds from violent passions or affections of the mind, all evacuants must be carefully avoided. The patient in this case ought to be kept perfectly easy and quiet, to have the mind soothed, and to take some gentle cordial, as negus

or a little brandy and water, to which a few drops of laudanum may be occasionally added,

When vomiting proceeds from spasmodic affections of the stomach, the application of a warm plaster to the pit of the stomach will afford relief. Any aromatic medicines may likewise be taken internally, as cinnamon or mint tea, wine with spices boiled in it, etc. The region of the stomach may be rubbed with ether, or, if that cannot be had, with strong brandy or other spirit. The belly should be fomented with warm water, or the patient immersed up to the breast in a warm bath. Saline draughts, taken in the act of effervescence, are of singular use in stopping a vomit, from what ever cause it may proceed. These draughts may be prepared by dissolving one dram of the salt of tartar in one and a half ounces of fresh lemon juice, and adding to it one ounce of peppermint water, the same quantity of simple cinnamon water, and a little white sugar. This draught must be swallowed before the effervescence is quite over, and may be repeated every two hours, or oftener, if the vomiting is violent. As the least motion will bring on vomiting again, even after it has stopped, the patient ought to avoid all manner of action.

WATER BRASH.

Water Brash consists in a discharge from the stomach, generally in the morning, of a thin, glairy fluid, sometimes insipid, often sweetish, and at other times sour. A burning heat or pain of the stomach attends it, and seems to cause the discharge. The amount thrown up varies from a spoonful to a pint or more. The complaint is caused by a poor, innutritious diet, or by whatever causes the blood to become thin and watery.

Treatment.—Ten or fifteen drops of ammonia water, in half a tumblerful of cold water, will quiet the distress and stop the discharge. The best remedy for this discharge is the trisnitrate of bismuth, taken at meal times, three times a day, in thirty-grain doses. The tincture of nux vomica is good. The blood should be restored by tonics of some preparation of iron, and the food should be nourishing and digestible.

WORMS.

Worms are parasitical animals which infest the intestinal canal of

man. They are of five different kinds—the Ascarides, or small thread-worms, varying from an eighth of an inch to one and a half inches in length, and having usually their seat in the rectum, or last gut; the Lumbrici, or long round worms, from two or three to ten or more inches in length, and usually occupying the small intestines, and sometimes the stomach; the Trichuris, or long, hair-tailed thread-worm, occupying the cœcum; and the Tænia, or tape worm, of which there are two kinds, occupying the whole tract of the intestines, and sometimes thirty or forty feet in length.

Although adults are subject to this complaint, it is most common in children.

Symptoms.—Fetid breath, grinding of the teeth during sleep, picking the nose, paleness of the face, acid eructations, swelling of a portion of the belly, which is there hard and tender; gripings, variable appetite, great irritability and itching of the lower parts of the body; short, dry cough; emaciation, slow fever, increasing toward night; irregular pulse, and liability to convulsions.

Treatment.—A dose of castor oil, exercise in the open air, wholesome diet, and a strict prohibition of uncooked fruit, and raw and green vegetables; salt to be taken with all the food eaten.

Any of the following remedies may be used, according to circumstances:

Filings of Tin,.....½ an ounce.
Cassia Confection,.....½ an ounce.

Mix. Take of the electuary a piece of the size of a nutmeg twice a day; after this has been continued for two or three days, take the following:

Submuriate of Mercury,..... 3 grains.
Powdered Rhubarb,.....10 grains.

Mix, and take on the fourth morning after the preceding.

Pound the leaves of tobacco with vinegar, and apply as a poultice to the stomach.

Powdered Jalap,.....1 ounce.
Cream of Tartar.....1 ounce.
Powdered Ginger .....½ a dram.
Treacle sufficient to make an electuary.

For a child, a very small teaspoonful at bedtime.

Pour a pint of boiling water on one ounce of the leaves of the black hellebore, and, after it has cooled, give a dessert-spoonful every four hours until it purges freely.

Inject into the bowels a half-pint of warm water to which has been added two drams of the tincture of sesquichloride of iron. If after the use of this injection there is much irritation, three or four of thin starch should be thrown up.

(For adults):

Compound Scammony Powder,.....20 grains.
Calomel,..... 3 grains.
Sulphate of Potash,.....20 grains.

Mix; to be taken fasting.

Aloes,..... 3 grains.
Rhubarb,.....6 grains.
Aromatic Powder,.....5 grains.

To be given on four successive nights, and worked off on the fifth morning with a dose of salts.

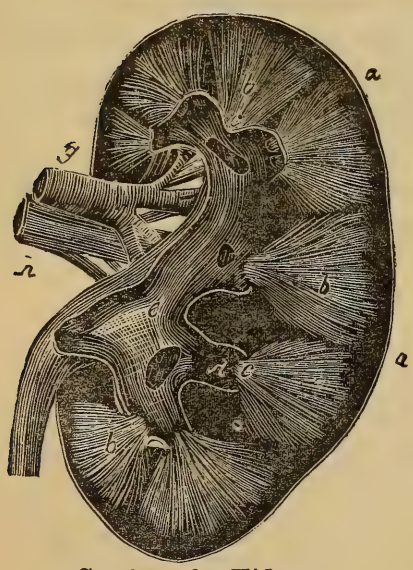
The reason why children are more infested with worms than adults are, arises in a great measure from an indulgence in sweetmeats, sugar, etc., and from the partial or total neglect of salt. This matter should be scrupulously attended to, at the same time endeavoring to invigorate the system generally by wholesome and nutritious food. These measures are of themselves frequently sufficient to procure for a child an immunity from this distressing and debilitating complaint.

THE URINARY AND GENITAL ORGANS.

ANATOMY AND FUNCTIONS.

THE KIDNEYS.—These are two glandular bodies situated in the lumbar region, whose office is to secrete the urine from the blood. Their exact position is on either side of the spine, in what is usually called the small of the back, where they lie imbedded in fat; each of them is supplied with blood by vessels which issue directly from the aorta, and from each of them issues a duct called the ureter, which conveys the urine to the bladder. The kidneys are composed of two very different structural arrangements—the outer, or cortical portion being, as it were, granulated, and the inner being fibrous, arranged in pyramids or cones, with their bases resting upon the cortical substance, and their apices or points opening into a central cavity—the pelvis, or, as it has been called, the brain of the kidney, which may be regarded as an expansion of the upper portion of the ureter, which is about the diameter of a goose quill, and eighteen inches long, passing behind the bladder, and entering that organ at its lower part. The granulated appearance of the cortical portion of the kidneys is owing to the

FIG. 72.



Section of a Kidney.

remarkable globular expansions of the roots of the capillary tubes, which form the cone-like structures of the inner part, and present, when viewed through the microscope, a very beautiful arrangement, consisting of bundles or fasciculi of hair-like filaments—each bundle together forming what is called a process, and opening into one of the calices of the pelvis, in a nipple-like projection, having several minute orifices. On all these, little canals, called tubuli uriniferæ, tiny blood vessels ramify and spread down to the rounded communicators to which we have just alluded, and which are sometimes called the corpuscles of Malpigi; here it is that the urine is secreted or separated from the blood, and from thence it is conveyed by the tubuli into the calices, and then through the pelvis of the kidneys into the ureter, to be received in the great reservoir, the bladder; from thence, by means of muscular contraction, to be forced out by the proper channel, when sufficient quantity has accumulated.

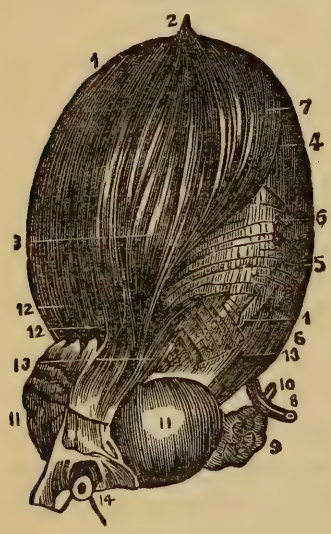
Each kidney together forms a firm, fleshy mass, which is enclosed in a fibrous capsule, the outer and tougher membrane being lined with a soft and smooth mucous membrane which forms a continuation of that which lines the ureter and the bladder; the shape is about that of a French bean.

The Urine is a highly complex fluid, secreted from the blood by the kidneys. In a healthy person, when recently voided, it is a clear, limpid fluid, of a pale yellow or amber color, with a peculiar faint aromatic odor, which becomes pungent and ammoniacal when decomposition takes place. Often, however, as it cools, it becomes opaque and turbid, from the deposition of part of its constituents previously held in solution; and this may be consistent with health. The quantity secreted in twenty-four hours depends upon the amount of fluid drank and the quantity secreted by the skin; but generally it is about from thirty to forty fluid ounces. In 1000 parts of ordinary urine there are 933 parts of water and 67 parts of solid matter

The Bladder is a thin membranous bag which serves as a recep-

tacle for the urine secreted by the kidneys, until it is voided through the urethra. It is situated in the pelvis, and is kept in its place by ligaments, which are usually divided into true and false, the latter being formed of folds of the peritoneum. It is composed of three coats, or membranes,—the external, or fibrous membrane; the middle, or muscular membrane; and the internal, or mucous membrane. The muscular membrane is composed of bands of muscular fibres running in different directions, and commonly distinguished into two layers—an external or longitudinal, and an internal, transverse or circular. Its figure is nearly that of a short oval. It is broader on the fore and back than on the lateral parts,—rounder above than below when empty, and broader below than above when full. It is divided by anatomists into the summit or superior fundus, the body, the base or inferior fundus, and the neck—that portion which is constricted by a sphincter muscle, and communicates with the urethra. On each side, rather below its middle, it receives the two ducts called ureters, which convey the urine from the kidneys into the bladder.

Fig. 74.



The Urinary Bladder, showing its muscular fibres.

8, Left Ureter; 9, Left portion of Seminal Vesicles; 11, 11, Lateral Lobes of the Prostate Gland; 14, Urethra, tied with a cord.

Generative Organs.—In the human race, as throughout the greater part of the animal kingdom, generation is accomplished by fecundation, or the effect of the vivifying fluid provided by one class of organs upon the germ contained in the seed or ovum formed by another class, in the opposite sex. This germ, when fecundated, is termed the embryo. The process consists of impregnation in the male—conception in the female.

The organs of generation in the male are—1. The testes and their envelopes, namely, the scrotum or cutaneous envelope; the dartos, which corrugates or ridges the scrotum; and the fibrous or vaginal tunics; we must also here include the epidermis, above the testes; the vas deferens, or excretory duct, and the spermatic chord. 2. Vesiculæ seminales, forming a canal situated beneath the bladder. 3. The prostate gland, surrounding the neck of the bladder and the commencement of the urethra. 4. Cowper's glands, a pair

situated below the prostate. 5. The ejaculatory ducts. 6. The penis, which consists of the corpus cavernosum, the urethra, the corpus spongiosum, which terminates in the glans penis; then there are the vessels, nerves, and a cutaneous investment, which by its prolongation forms the prepuce.

The female organs are: 1. The vulva or pubendum, the external parts, comprehending the labia pubendi (lip), the clitoris, situated at the middle and superior part of the pubendum; the nymphæ or alæ minores; the urethra, which terminates in the meatus urinarius, opening into the vagina, which is occupied by the hymen, a semilunar fold, or the carunculæ myrtiformis, its lacerated remains after the first act of copulation; and the entrance into the vagina, termed the os externum, so called to distinguish it from the os internum, or orifice of—2. The uterus, whose appendages are—the ligamenta lata (the broad ligaments), sometimes called alæ vespertilionum, and the round ligaments commencing immediately before and below the Fallopian tubes, which extend to the ovaria.

The Perinæum.—The space between the anus and the external parts of the generative organs, so called from being frequently moist. The operation of cutting for stone in males is usually performed here, and here it is that serious injury sometimes occurs, when persons fall with their legs astride of any object, or get a bruise while in that position, as on horseback; bloody urine, or complete stoppage may be the consequence, arising from inflammation of the bladder, or urethra. Rest and warm fomentations, with leeches, and the use of the catheter, if necessary, must in this case be resorted to; with low diet, aperients, and cooling medicines, to keep down any tendency to fever there may be.

We abstain from giving cuts of these several parts and organs for sufficiently obvious reasons; in a book intended for family use they would be altogether objectionable. With regard to the diseases which more immediately affect them, a few simple remarks will be made under their several heads; but we would here impress upon our readers the necessity of at once seeking medical advice for all affections of the genital organs. It is in the treatment of this peculiar class of diseases that advertising empirics reap their richest harvest, entailing the greatest present sufferings, and most fearful after-consequences upon their too credulous dupes.

DISEASES OF THE URINARY AND GENITAL ORGANS.

BLEEDING FROM THE BLADDER—BLOODY URINE.

Causes.—Falls, blows, bruises, or some violent exertion, such as jumping or the like; sometimes from small stones in the kidneys, ureter, or bladder, which wounds those parts.

Symptoms.—The blood parted with is somewhat coagulated, and deposits a dark brown sediment resembling coffee grounds. When the blood is from the kidney or ureter, it is commonly attended by acute pain, and sense of weight in the back, and some difficulty in parting with it. When the blood is from the bladder immediately, it is usually accompanied by a sense of heat, and pain at the lower part of the body, and the blood is not so much coagulated.

Treatment.—Empty the bowels with cooling purges, and take the following astringent tonic mixture: Tincture of steel, three drams; infusion of roses, six ounces; mix, take two tablespoonfuls every three hours; and physicians generally recommend that the drink should be thick barleywater, solution of gum arabic, or decoction of mallows sweetened with honey.

Mild aperient draught: Tartrate of potash, three drams; tincture of senna, one dram; manna, half an ounce; warm water, one and a half ounces; mix, and take at once.

CLOUDED, THICK, OR DARK-COLORED URINE.

Take the following antacid diuretic mixture: Liquor potash, two drams; tincture of cubebs, two ounces; infusion of buchu leaves, thirteen ounces; mix, take two tablespoonfuls four times a day.

The following will usually effect a cure: Dilute nitric acid, two drams; syrup of lemon, four drams; water, eight ounces; mix, take one tablespoonful three times a day; or take half a teaspoonful of citric acid in water four times a day.

DIABETES.

An immoderate flow of urine, distinguished as first *insipidus* (tasteless), when the urine retains its usual taste; and second, *mellitus* (honied), when it is characterized by a saccharine taste. Gen-

erally speaking these may be considered as two stages of the disease, the urine being at first clear and without other than the usual taste, and afterward becoming cloudy and sweet.

Causes.—The chief causes of diabetes are intemperate living, excess of venery, copious evacuations of the bowels long continued, frequent use of diuretics and acrid drinks, or it may be hard labor and poor living, or aught which tends to impoverish the blood. The best physicians consider it "an impaired action, or morbid change, in the natural powers of assimilation and digestion, which forms the proximate cause of the disease."

Symptoms.—Frequent and copious discharge of urine, containing eventually, if not at first, a large proportion of saccharine and other matter. There is gradual emaciation, voracious appetite, great thirst, weakness, and disinclination to motion; the alimentary process is improperly performed, and thus the food taken does not yield its proper amount of nourishment, and constitutional derangement is the consequence.

Treatment.—The diet should be entirely animal food—all vegetable substances to be avoided—the bowels to be kept quietly open with pills of aloes and soap, emetics and diaphoretics occasionally administered, perhaps the compound ipecacuanha powder, ten grains at bed-time, is the best; alkaline drinks, such as soda water, may be given with advantage, and blisters and issues applied to the regions of the kidneys, covering the skin with flannel, anointing it with camphorated oil, using the warm bath and the flesh brush are also good, as are chalybeate and sulphurated waters. Tonics, astringents, and stimulants will be of service, especially preparations of iron with tincture of cantharides; if in the summer, sea-bathing, and anything which may serve to invigorate the system. Such is an outline of general treatment; of course, constitutional peculiarities require special and appropriate remedial measures, and of these only the professional adviser can judge.

GRAVEL.

A disease depending on the formation of stony matter in the kidney.

Treatment.—The general treatment should consist in a hot bath and warm fomentations; a dose of castor-oil should be administered, and when the bowels have acted, if there be much pain, the

following may be given: Solution of acetate of morphine, one dram; spirit of hydrochloric ether, two drams; syrup of roses, half an ounce; camphor mixture, four ounces. One-fourth part to be taken at bed-time. Linseed tea or barley water should be drank freely. The following may also be used with good results: Infusion of buchu, seven ounces; tincture of musk seeds, one ounce; sal volatile, two drams. Mix; dose, two tablespoonfuls once or twice a day. Or this: Essential oil of spruce, one scruple; spirit of nitric ether, one ounce; mix; dose, a teaspoonful two or three times a day, in a teaspoonful of the decoction of marshmallow root. Or the following may be used: Rectified oil of turpentine, sweet spirit of nitre, oil of juniper, balsam of sulphur, of each half an ounce; mix; dose, fifteen or sixteen drops in a wineglassful of water three times a day. Or this: Alicant soap, eight ounces; fresh lime, finely powdered, one ounce; oil of tartar, one dram; mix with sufficient quantity of water for a mass, and divide it into five-grain pills, from three to four of which should be taken daily. The following remedy has been highly recommended for this complaint: Parsley Blakestone (of the herbalist), ten cents worth, stewed down in a pint of water to half a pint; when cool, add a wineglassful of gin. Take a wineglassful of the mixture every morning, until relief is afforded.

INFLAMMATION OF THE KIDNEYS.

The existence of this disease may be known by a sense of heat and sharp pains about the loins, and a dull, benumbed feeling down the thigh.

Treatment.—Avoid everything of a heating or stimulating nature, and let the diet consist chiefly of light, thin broth, mild vegetables, etc.; drink plentifully of balm tea, sweetened with honey, decoction of marshmallow roots, with barley licorice, etc. Nothing so safely and certainly abates the inflammation as copious dilution. Should there be much pain in the back, heat should be applied to the part; and this is done by means of cloths dipped in hot water, rewarmed as they grow cool. Another good plan is to fill bladders with a decoction of madders and camomile flowers, to which is added a little saffron, and mixed with about a third part of new milk. Should there be shivering and signs of fever, with considerable tenderness over the kidneys, and no medical advice at hand, a few leeches may be applied. After some time the bowels should be freely opened,

and the best means of effecting this is with three grains of calomel, and two hours afterward half an ounce of castor oil; subsequently the following may be given: Carbonate of soda, two drams; spirit of nitric ether, tincture of henbane, of each two drams; syrup of tolu, mixture of acacia, of each one ounce; camphor mixture to eight ounces; mix, and take half a wineglassful every four hours. A very good remedy is the following: Take of tincture of opium, liquor of ammonia, spirit of turpentine, and soap liniment, of each equal portions; mix, and rub well into the parts affected. In conjunction with this external application, take of infusion of buchu, eleven drams; powdered tragacanth, five grains; tincture of buchu, one dram; mix for a draught, and take every morning. Or this may be used: If there be much nausea, a clyster should be administered, consisting of a dram of laudanum, with half a teacupful of thin starch; this to be injected every two or three hours, or at longer intervals, according to the effect produced. Employ the warm bath, and afterward warm fomentations to the stomach and loins; drink freely of linseed tea. Take also of sulphate of magnesia one ounce; solution of carbonate of magnesia, one ounce; tincture of henbane, and tincture of ginger, of each two drams; sulphuric ether, half a drachm; water, four ounces; mix, and give three tablespoonfuls every six hours. Those who have once suffered from inflammation of the kidneys are very liable to it again; to prevent a recurrence of the attack, they should abstain from wine and stimulants; use moderate exercise; avoid exposure to wet and cold; eat of food light and easy of digestion; not lie too much on the back, and on a mattrass in preference to a bed.

INFLAMMATION OF THE BLADDER.

Causes.—It is seldom a primary disease, but is in consequence of inflammation in the neighboring parts; it is, however, sometimes caused by retention of the urine, and consequently over-distension of the bladder, or by a large stone in the bladder.

Symptoms.—Acute pain and tension of the part frequent desire to make water, but difficulty in passing it, or a complete retention of it; and tenesmus, and frequent desire to go to stool to no purpose.

Treatment.—The diet must be light and thin; the drinks in all

bladder diseases must be linseed tea, barley water, solution of gum arabic, marsh mallow tea, and the like; bleeding by leeches, if very bad, and this anodyne clyster: Linseed tea and new milk, each half a pint; laudanum, forty drops; mix, and inject; this foments the internal parts. The bowels may be kept open by this mild aperient draught: Tartrate of potash, three drams; tincture of senna, one dram; manna, half an ounce; warm water, one and a half ounces; mix and take at once.

IRRITATION OF THE BLADDER.

In ordinary cases this may be relieved by warm fomentations applied to the affected part, or by warm bathing. It is also well to avoid undue exertion, to rest in a recumbent position as much as possible, to keep the bowels well open, and to abstain from eating and drinking such things as are of a heating and stimulating nature. When the complaint assumes a more severe form, medical advice should be sought without delay.

INCONTINENCY OF URINE.

This is rather a troublesome than a dangerous complaint, and young children and aged persons are most liable thereto.

Causes.—Most generally from a relaxation of the governing sphincter muscle of the bladder, from weakness or paralytic affection, but sometimes it is caused by some irritating substance in the bladder; in children, some say, from sleeping on their backs.

Symptoms.—The water comes away in drops, sometimes involuntarily.

Treatment.—Dash cold water on the loins and genitals; a blister on the spine is useful, and the following are useful:

Stimulant tonic drops: Tincture of steel, six drams; tincture of cantharides, two drams; tincture of henbane, one dram; mix, take thirty drops, three times a day, in water.

Or the following may be used with good effect: Sulphate of zinc, one dram; powdered rhubarb, one dram; Venice turpentine, two drams; mix, divide into sixty pills, take one three times a day, and therewith a wineglassful of the decoction of leaves of bear's whortle, or bilberry,

SUPPRESSION OF URINE.

If there is a frequent desire of making water, attended with much difficulty in voiding it, it is called strangury. If none is made, suppression of urine.

Causes.—Inflammation of the urethra or passage, or sores, or severe inflammations about those parts; a lodgment of hard matter in the last gut or rectum, spasm at the neck of the bladder, exposure to cold, taking to excess cantharides, or blistering back, excess in drinking, stone in the kidneys or bladder, and enlargement of prostate glands.

Symptoms.—A constant desire, or feeling of necessity to make water and cannot, or if parted with, much pain and difficulty in passing it; much enlargement of the bladder. If from stone in the kidney be the cause, often nausea, vomiting, and acute pain in the loins; if from stone in the bladder, the stream of water will be divided into two, or suddenly checked.

Treatment.—If much inflammation and irritation exists, all straining to expel the urine should be avoided, and it let off by a catheter every six hours, or, as it is commonly called, drawn. The following will be found very useful remedies:

Anodyne diuretic draught: Mucilage of gum acacia, six ounces; olive oil, one and a half ounces; mix well in a marble mortar, then add six drams of spirits of sweet nitre; laudanum, one and a half drams; fennel water, three ounces; mix, and take three tablespoonfuls every three hours; or this:

Demulcent diuretic draught: Acetate of potash, two drams; laudanum, one and a half drams; syrup of marsh mallows, one and a half ounces; fennel water, eight ounces; mix, take three tablespoonfuls every three hours.

The bowels must in all cases be kept free by using the following often:

Emollient clyster: Balsam of capivi, two drams; yolk of an egg; rub this and the balsam together; then add castor oil, half ounce; laudanum, one dram; compound decoction of marsh mallows (that is well boiled), eleven ounces; mix, inject up the rectum; this foments and soothes the parts.

MASTURBATION (*Self-Pollution, Onanism*).

This destructive vice is indulged in to a frightful extent by the youth of both sexes. Often the habit is indulged in without its victim having the slightest knowledge of its destructiveness, and only when nature is so outraged that the system refuses to perform its offices, does the victim become conscious of the evil. A grave responsibility rests upon parents toward their children in these matters. Every child, male or female, should be carefully watched, until it is old enough to understand the subject, and then it should be carefully explained to it. The earlier this is done, and the stronger the impression made upon the mind of the child of the wickedness of this abuse, the better. It is truly a matter of life and death, and squeamishness is as much out of place as if the child were really dying.

The habit of self-pollution in boys leads to that of involuntary seminal emissions, in itself a disease, and a continued cause of nervous exhaustion and final impotence. In girls the same habit causes leuchorrea, or mucus discharges from the vagina, falling of womb, irregular and painful menstruation, a loss of all pleasure in the sexual relation, difficult and painful childbirth, and a whole train of nervous and hysterical affections, which make the lives of women a curse to themselves and to all around them.

It is supposed by many that the mischief of this practice is from the loss of semen. The loss of this secretion is certainly exhausting; but this is far from being the greatest source of evil. Boys secrete no semen before puberty, and girls never secrete any. The real source of mischief is in the nervous orgasm—that vivid, ecstatic, and, in its natural exercise, most delightful of all sensuous enjoyments. The orgasm is almost a spasm. When prematurely excited, though then imperfect, it gives a shock to the whole system; and when often repeated, the nervous power is completely exhausted. All the vitality of the body goes to supply the immature and too-early exhausted amative organs in the brain and body. The cerebrum is robbed, and the child loses sense and memory; the digestive system is robbed, and we have dyspepsia and decay, with a terrific train of nervous and organic diseases.

Symptoms.—The following are given by reputable and scientific medical writers as among the symptoms of this disease:

Loss of memory and mental power; entire concentration of mind and imagination on one feeling and act; a besotted, embarrassed, melancholy, and stupid look; loss of all presence of mind; incapability of bearing the gaze of any one; tremors and apprehensions of future misery; morbid appetite; indigestion, and the whole train of dyspeptic symptoms, constipation, fetid breath, etc.; pale, sallow, cadaverous, or dirty-looking, greasy skin; eruptions of pimples over the face, particularly the forehead, and on the back between the shoulders; hollowness and lack-lustre of the eyes, with a dark circle around them; feebleness of the whole body; indisposition to make any active exertion; weakness, weariness, and dull pain in the small of the back; creeping sensation in the spine. Finally, here comes insanity or idiocy; atrophy, and death by consumption, most probably of the lungs; but very frequently of the spine or the bowels.

With females, beside these consequences, there are menstrual irregularities, hysteria, catalepsy, and general nervous derangement.

Treatment.—The habit must be abandoned at once; unless this be done no treatment will be of any avail. The moral character must be strengthened. The motives of hope, manhood, virtue, and religion must be placed before the patient. All things of a sensational character must be avoided, the company of the good and virtuous cultivated, and the mind kept engaged in some elevating study or useful employment. Avoid all stimulants—wine, coffee, liquors, novels, love pictures, balls, theatres, and sleeping on the back. Use a hard bed, light and not too nutritious food. Take whey, acidulous drinks, fruits, and a vegetable diet. Take a bath morning and evening, and exercise till quite fatigued. Avoid all aromatic articles, fish, eggs, jelly, game, salad, mushrooms, cantharides, aloes, and all stimulants, except camphor. If there is irritation in the cerebellum, by heaviness or heat, cut the hair very short, wear no cap, use a hard pillow, ice applications on the nape, with hot foot bath, dry or narcotic friction on each side of the vertebral column, also cold liquid applications.

In extreme cases, where the habit has overcome the reason of the patient, he should not be left alone day or night. Let him go to bed only when much fatigued, and rise the moment he awakes. Let the bed be hard and cool, with light covering. Attend to the evacuating of the bowels and bladder. Dashing cold water on the

genitals, with the free use of the vagina syringe for females, will assist much in restoring the tone of the organs.

NOCTURNAL EMISSIONS.

These, to which young men are sometimes especially liable, often cause more alarm than there really is any occasion for; they are involuntary discharges of the seminal fluid, and are likely to occur when the organs are excited by dreams, or imaginations of a certain character. Unless they become frequent and profuse, there is no reason for regarding them with the morbid feeling of anxiety which they commonly occasion; still such discharges should be attended to and checked as much as possible. They generally indicate a debilitated system, and are in most cases, perhaps, the result of criminal self-indulgence and venereal excesses, from which those thus affected should rigorously abstain. A course of tonic medicines should be taken; nothing is so good as the muriated tincture of iron with quinine, about one grain of the latter with ten drops of the former, in a little water, three times a day. Sea bathing or the shower bath, regular but not excessive exercise, a sufficiently nourishing but not a stimulating diet, with gentle aperient medicines if required (avoiding aloes), are the proper remedial measures.

Persons affected in this way often get into a painfully nervous state, and, conscious that they are but reaping the reward of bad practices, are ashamed to state their cases to a respectable medical man, and therefore fly to advertising quacks, who promise secresy and a rapid cure. But this is a great mistake; there can be no rapid cure for involuntary seminal discharges, except it be by such powerful medicines as will do great mischief to the system of the patient, and probably render his organic weakness permanent. In nine cases out of ten a temporary stoppage of the discharge, even, is not accomplished by the much-vaunted Balm of Syriacum, and other nostrums, so quickly as it would be by the means above recommended, or others which the legitimate practitioner might deem suitable for the peculiar case, and no after ill-effects are to be apprehended from such treatment.

GONORRHEA.

Gonorrhea or clap is not, as its name implies, a discharge of true

semen, but consists of a purulent discharge from the urethra, being the effect of inflammation of a specific character attacking the extremity of that passage, and in certain cases extending through its whole course.

Symptoms.—This disease begins to make its appearance in some persons about the third or fourth day, and in others in a week or two after connection, but the average time is from three to twelve days. About the third day, generally speaking, the orifice of the urethra begins to swell, the patient feels a certain degree of uneasiness in the parts, there is a sensation of itching in the glans of the male organ, and a soreness and tingling in the course of the urethra; the lips of the orifice are, at first, drier and hotter than natural; but in a short time a white purulent discharge makes its appearance, which as time advances increases in quantity. There is now great pain and scalding in passing water, in consequence of such a fluid as the urine, which is loaded with saline matter, passing over an inflamed surface; and from the inflammation of the lining membrane diminishing the size of the passage, the urine is voided in a smaller stream than natural, and sometimes with difficulty. The discharge in the course of a few days considerably increases, and changes its appearance, being sometimes greenish and sometimes of a yellowish cast; the patient is troubled with frequent and painful erections, particularly when he gets warm in bed—this affection is called chordee. In the mild form of this disease, it is unaccompanied by any constitutional symptoms, and will, by strict attention to diet, rest, and cleanliness, run itself off in the course of five or six weeks without the aid of medicine, or any treatment except that just recommended.

In the severe form of the disease, arising either from natural causes, intemperance, or the use of strong astringent injections, the inflammation, instead of being confined to the first inch and a half of the urethra, may extend the whole length backward, implicating the prostate gland, neck of the bladder, and the lining membrane of that organ. In these cases, the patient is tormented with a frequent desire to pass water, which is voided with great difficulty, and only by a few drops at a time. There is great constitutional disturbance, and fever of an inflammatory character. It is also frequently accompanied by enlargement of the glands of the groin, arising from inflammation of a set of vessels called absorbents, which lead from the diseased surface in the urethra into them;

these are called sympathetic buboes, in consequence of their increasing or diminishing in size according to the amount of inflammation in the passage—they do not frequently proceed to suppuration. From the same cause—that is, extension of inflammation along the spermatic tube—there will be inflammation and enlargement of one or both testicles. In such cases the discharge will disappear for a time, and as there may be a good deal of constitutional disturbance and fever, all stimulating medicines and astringent injections should be suspended—this affection frequently arising from their improper use. It may also be accompanied by one or more abscesses along the urethra, which frequently communicate with that passage.

Chordee is a most troublesome affection in this disease, and consists in the painful erection of the penis, the top being bent downward: this arises from inflammation of the cells surrounding the urethra, which prevents its extension during erection, when all the other parts of that organ are filled with blood. When the inflammation runs high, it sometimes happens that, in making water, a small blood vessel is ruptured, and a flow of blood ensues, which is of great service unless it should be too copious, when it must be stopped.

In persons troubled with tight foreskins, the matter from the urethra becomes collected between the foreskin and glans of the penis, producing excoriation of the latter, and inflammation and swelling of the former; so that the patient is unable to draw it back from the glans: this state is called phymosis. On the other hand, when the foreskin becomes inflamed and swollen, and cannot be drawn over the glans so as to cover that part, it is called paraphymosis. Persons in whom the foreskin is naturally very tight, so that the glans of the penis is never exposed, are subject, when out of health or when the bowels are confined, to a discharge from beneath the foreskin, resembling in its character the discharge which takes place in gonorrhea: this discharge arises from irritation of a set of glands surrounding the glans of the penis, which pour out a purulent secretion that produces excoriation and inflammation of the parts. This disease is called spurious gonorrhea, and must be distinguished from true gonorrhea, as the treatment of the two will essentially differ.

Treatment.—In the mild form of this disease, and in the first stage when the discharge is fully developed, and the inflammation

confined to the first inch and a half of the urethra, the first thing to be done is to open the bowels briskly. This may be effectually accomplished by administering the following powder:

Powdered Jalap,.....20 grains.
Calomel, ... 4 grains.

Mix. To be given in something thick at bed-time. Animal food, all stimulating drinks, such as ale, spirits, and wine, should be carefully abstained from. Great cleanliness should be observed, the penis should be bathed several times a day in hot water, allowing it to soak for a few minutes each time, and taking care to wash off all discharge which might be collected between the foreskin and glans of the penis. The patient should rest as much as possible, and he should wear a suspensory bandage to keep the penis out of the way of all friction. His diet should consist of light farinaceous food, such as arrow-root, sago, or bread puddings; and for his ordinary drink, barley water or toast and water. Broths of an unstimulating character, such as mutton and chicken, might be both allowed occasionally. He should then take the following powder three times a day:

Cubebs Pepper..... 1 dram.
Powdered Gum Arabic,..... 1 scruple.
Carbonate of Soda,..... .....10 grains.

Make a mixture. To be taken in a little milk or water. This treatment should be continued for a few days, after which the doses of cubebs might be increased to two drams three times a day. Should the discharge still continue after persevering in this plan for eight or ten days, and when the active stage of the inflammation has subsided, the following mixture may be administered with advantage:

Balsam Copaiba..... .....1 drams.
Sweet Spirit of Nitre,.....4 drams.
Tincture of French Flies,.....2 drams.
Water,.....3 drams.

Mix, shake up, and take one teaspoonful three or four times a day, in a wineglassful of water.

Or the following mixture:

Balsam Copaiba,.....3 drams.
Powdered Gum Arabic.....2 drams.
Camphor Mixture, or Common Water,.....6 ounces.
Spirit of Lavender,..... .....½ ounce.
Sweet Spirit of Nitre,.....½ ounce.

Mix. Rub up the copaiba with the gum arabic, first, in a mortar; then add the water by slow degrees, and when the copaiba becomes incorporated with the water, add the other materials: a tablespoonful to be taken every day. Should this quantity disagree with the stomach, or produce pain in the back, the dose may be diminished according to the age, strength, and peculiar circumstances of the patient.

The following is also a good form of mixture:

Copaiba, ... 3 drams.
Powdered Cubebs,..... 6 drams.
Laudanum,.....30 drops.
Powdered Gum Arabic,..... 2 drams.
Common Water,..... 6 ounces.

A tablespoonful three or four times a day. Care must be taken to keep the bowels gently open during the treatment. The following is a good aperient pill for the purpose:

Compound Colocynth Pill..... .....1 dram.
Calomel, ...6 grains.
Oil of Caraway,..... .....6 drops.

Mix, and divide into twelve pills; one or two to be taken every second or third night. It sometimes happens that the copaiba disagrees very much with the stomach, producing indigestion and eructation of a rancid fluid into the mouth; also fever and nettle rash. In these cases it should be suspended for a time, or altogether omitted.

In the severe form of this disease, when the inflammation extends as far as the neck of the bladder, bleeding should be resorted to immediately; the blood may be taken from the arm of the patient, if he be of a full stout habit, or leeches may be applied to the amount of ten or twelve along the perineum and urethra, which may be repeated, according to necessity, once or twice a week. Fomentations, consisting of flannels wrung out of hot water, should then

be applied, or large poultices of linseed meal, or bread and water, three or four times a day; or the patient may sit in a hip bath once or twice daily; strict rest in the recumbent position should be enjoined; and for the purpose of keeping the bowels open, the following mixture should be administered:

Epsom Salts,	6 drams.
Tartar Emetic,	1 grain.
Mindererus Spirit,	1 ounce.
Syrup,	½ ounce.
Camphor Mixture,	5 ounces.

Two tablespoonfuls to be taken every two or three hours. In order to allay irritation, and relieve the pain, heat, and difficulty in making water, the patient should drink freely of barley water, linseed tea, or solution of gum in milk. Some recommend the use of soothing injections in this stage. The injection should consist of—

Warm Water,	8 ounces.
Vinous Solution of Opium,	60 drops.

This should be thrown into the urethra several times a day.

If the patient should be troubled with a frequent desire to make water opium administered by the mouth or rectum is of the greatest service. The following is a good draught in these cases:

Tincture of Opium,	30 drops.
Syrup,	¼ ounce.
Camphor Mixture,	1½ ounces.

Make a draught; to be taken once or twice in twenty four hours, according to the intensity of the pain. Or an injection, consisting of two ounces of thin gruel, and half a dram of tincture of opium, may be thrown into the rectum.

Stricture is frequently the result of this form of the disease. When the active stage has been reduced by the means already laid down, the discharge may be treated by astringents, both internally and externally. The form of mixture already prescribed will answer. Astringent injections may be also employed with advantage —either of the following may be used:

Sulphate of Zinc (White Vitriol),.....30 grains.
Wine of Opium,..... ½ dram.
Water,..... 6 ounces.

To be thrown into the urethra three or four times a day.

Or take:

Nitrate of Silver (Lunar Caustic),.....4 grains.
Distilled Water,.....1 ounce.

One of the most painful, and sometimes most troublesome consequences of gonorrhea, is inflammation of the testicle. This affection, usually termed "swelled testicle," may occur at any period of the disease; and although its occurrence may be favored by improper treatment or mode of living, is in most cases independent of such causes. It arises from extension of the inflammation from the urethra down the spermatic canals to one or both testicles, but usually attacks only one at a time. It is best to be avoided by careful attention to regular living and quiet, during the inflammatory stage of the gonorrhea. It commences sometimes with pain in the testicle itself, and sometimes the pain is felt first in the groin, in the situation of the spermatic cord. If its approach is thus perceived, the application of numerous leeches in the groin, or of cupping to the loins, with rest in the recumbent posture, and suspension of the scrotum in a proper bandage, will frequently prevent the extension of the inflammation to the testicle itself. Should the inflammation, however, have reached that organ, or commenced in it, the most immediate relief will be obtained by carefully surrounding the swelled testicle with narrow strips of adhesive plaster, together with perfect rest, the testicle being further supported in a bandage; and should the pain extend to the groin, the application of leeches in that situation will usually put a stop to the disease in a few days. As many, however, will be unable to apply the strapping in a proper manner, and as it is only applicable in the early stage of the affection, it may be as well to say that usually the inflammation will subside spontaneously in a few days, if the patient will keep quietly lying on his back with the testicles supported in a proper bandage, and fomented either with hot water, and cool with cold water, as his feelings may dictate. The bowels should be kept open by saline purgatives, such as Epsom salts, etc., and the diet should be low.

If there is much pain in the groin, flank, and back, leeches should be applied in the former situation, or cupping in the latter, and a full dose of Dover's powder should be taken at bed-time. In extremely painful cases, great relief will be experienced by the application of a tobacco poultice to the scrotum. This may be made by mixing equal parts of tobacco and meal together, and moistened with hot water.

Mercury is never requisite in this affection, and leeches should never be applied to the scrotum itself. The swelling of the testicle in most cases, leaves hard swelling on the back of the gland, which is gradually removed in process of time; but during its existence, care should be taken to keep the testicles well supported in a suspensory bandage, as relapses under neglect of this precaution are not unfrequent.

In phymosis, the glans of the penis frequently becomes excoriated from the irritation of the matter from the urethra, and warty excrescences grow between the glans and the foreskin. In order to prevent such effects, great cleanliness should be observed, the foreskin should be drawn back as far as possible and the matter washed off, and warm water should be thrown under the foreskin several times a day by means of a syringe. If excoriation or warts exist, black wash will be of the greatest service—it should be used in a similar manner to the warm water. Black wash is made by mixing thirty grains of calomel with two ounces of lime water—to be well shaken when used. The bowels should be kept gently open by means of the common black draught.

Treatment of Chordee.—We have observed before that chordee consists in a painful erection of the penis, produced by the non-extension of the spongy cellular body surrounding the urethra, while all the other parts of the penis are distended with blood. This want of harmony between the parts occasions the penis to be bent downward, and also the pain which is experienced by the patient during an erection. In order to obviate this, the penis should be rubbed with strong solutions of opium, such as the tincture; or pledgets of linen, wet with the tincture of opium, should be constantly applied, taking care to change them as often as they become warm; or it may be rubbed with the following application, which is found of great service in this affection:

Extract of Belladonna,..... ..... 2 drams.
Camphor,.....10 grains.

Rub up the camphor into a fine powder, having previously dropped on it a few drops of spirit of wine, then add the belladonna; about the size of a small pea of this, rubbed along under the surface of the penis, and upon the frænum and bridle, quickly brings down an erection and relieves pain. All lascivious ideas should be dismissed from the mind. The bowels should be kept open by a mild aperient. As the erections generally come on more frequently when the patient becomes hot in bed, the best means of temporarily relieving it will be to bend the penis downward with the hand, and to apply cold; but the most certain means of preventing it will be to administer at bed-time the following draught:

Tincture of Opium,.....20 drops.
Camphor Mixture,..... .....1½ ounces.

Mix. This draught to be taken at bed-time, and to be repeated in three or four hours, if not asleep or if in pain.

In the treatment of sympathetic buboes accompanying gonorrhea, little will be required to be done, as they depend on the amount of inflammation in the urethra, and will increase and diminish in size according as the original disease becomes better or worse; however, as they sometimes enlarge very much and become very painful, it may be found necessary to apply leeches once or twice a week. The patient should rest as much as possible, and pledgets of linen wetted in Goulard water should be constantly applied. The bowels should be kept freely open. If they should not yield to this treatment, but should proceed to suppuration, poultices should be constantly applied until matter is formed, when it may be evacuated by the lancet

In cases of retention of urine following gonorrhea, the patient should be placed in a warm bath, and a large dose of laudanum administered. If this treatment does not succeed in relieving the bladder, the catheter should be introduced.

SYPHILIS, OR POX,

Is usually accompanied by three distinct characters of sores or ul-

cers: first, the common primary venereal sore; secondly, the phagedenic or sloughing sore; and thirdly, the true syphilitic or Hunterian chancre. The common venereal sore usually appears in three or four days after connection; the patient feels an itching about the tip of the penis, finds either a pustule or an ulcer, situated either upon the prepuce externally or internally, at its junction with the glans, or on the glans itself, or at the orifice of the urethra at its union with the bridle or frænum.

The form of this ulcer is generally round or circular, and is hollowed out, presenting a dirty, brown, hard, lardaceous surface, which secretes a puriform matter. When this ulcer is situated on the prepuce, it becomes raised, particularly at its edges; when in the fossa, or at the root of the glans of the penis, it is ragged; and when on the glans, it is excavated. Its progress is first destructive, and then suppurative; and, if not interfered with in favorable cases, usually runs its course in about twenty days—the destructive or ulcerative stage lasting about ten days, and the granulating or healing stage lasting the remaining ten. This sore is unaccompanied by any thickening or hardened base in the first stage, unless interfered with by mal-treatment, dissipation, or the abuse of caustic. This sore is frequently productive of swelling and inflammation in the groin, and is followed by warts and growths of an unhealthy character situated between the thighs, purse, and lower parts of the body, and between the buttocks.

Treatment.—In the first stage—that is, before the crust falls off, or where the ulcer is very small—the sore should be touched with lunar caustic; this frequently stops the ulcerative stage, and causes it to take on a new action by which it heals; the same application, but weaker, will be necessary if the sore becomes indolent. During the ulcerative stage, or that stage in which the ulcer increases instead of diminishes, great attention must be paid to cleanliness; the sore should be washed three or four times a day with warm water, a piece of lint or fine linen, covered with spermaceti ointment, or wetted with black wash, should be applied to it after every washing. The bowels should be kept open, and five grains of blue pill, or five grains of Plummer's pill, administered night and morning, taking care not to produce salivation. When the sore assumes an indolent character, great benefit will be derived from the application of the following wash:

Lunar Caustic,..... 5 grains.
Distilled Water,..... 1½ ounces.

Mix. A piece of lint or linen, wetted in this lotion, to be applied to the sore three or four times a day.

Black wash is the best application for those warts and growths which spring up about the anus and buttocks. The swelling in the groin, arising from the common venereal sore, seldom requires any treatment; but if it should prove troublesome and painful, leeches may be applied, followed by fomentations and poultices. The patient should rest as much as possible, and make use of a plain, unstimulating diet.

In the treatment of phagedenic or sloughing ulcer, no specific rules can be laid down, the sores at one time requiring a stimulating and at another time a soothing method of treatment. This sore usually commences from an excoriation, or a pustule, as in the case of common venereal sore, or it may follow that form of the disease. It is known by that process of extension by which its edges appear to melt away; "the action is chiefly confined to the margin, which the destructive process having undermined, overlaps with an irregular and ragged edge." In this form of ulcer, the reparatory action commences as soon as the destructive is exhausted, so that the two processes advance together at opposite edges, the sore ulcerating at one part and healing at another at the same time. In the commencement, the sore may be touched with nitric acid, or diluted nitric acid, upon two or three occasions, and if found not to agree, the stimulating treatment should be laid aside, and the soothing substituted. It may now be washed with warm water, and various applications tried, as it is impossible to say what form of wash will answer best. Those in most repute are the black wash, yellow wash (yellow wash is made by adding six grains of corrosive sublimate to four ounces of lime water), diluted nitric acid, Peruvian balsam, and solutions of the nitrate of silver. If the patient be of a full habit, he may lose blood from the arm with advantage, and take salines and antimonials. If weak, he should live generously, and mercury should be administered with great caution.

For the treatment of the true syphilitic or Hunterian chancre, mercury is the sheet anchor, and must be employed either internally or externally, or, where circumstances require it, by both means. This sore, unlike the preceding, seldom appears before a

week or ten days, and is sometimes not detected for four or five weeks after connection. It appears in the form of a red, raw, superficial ulceration, placed on a circumscribed, elevated, hardened base. This base is firm, incompressible, and inelastic, and is as hard as cartilage; it is destitute of pain and very slow in its progress. This form of the disease is generally accompanied by true bubo—that is, inflammation of one or two glands in the groin, distinct and circumscribed in their outline, and totally dissimilar to those swellings in the groin arising from gonorrhea or the common venereal sore.

As soon as the sore is detected, the patient should commence taking five grains of blue pill, and a quarter of a grain of opium, made into a pill, night and morning; and he may, at the same time, in order to bring the constitution as soon as possible under the influence of mercury, rub in, twice a day, along the inside of the thigh, about the size of a nut, an ointment composed of blue or mercurial ointment and camphor. The following is the formula: Rub down twenty grains of camphor on a slate with a spatula, having previously saturated it with spirit of wine, and then mix it up with the mercurial ointment. This treatment should be continued only until the mouth and gums become slightly affected, when it should be left off for a short time. The patient should be kept under the influence of the medicine for three or four weeks, and then the decoction of sarsaparilla and the hydriodate of potash administered. Five grains of the latter, in a common-sized tumblerful of the former, may be taken three times a day, and continued for a month, according to circumstances. The sore, in the meantime, should be kept clean, and such applications employed as may happen to agree with it best: these consist of washes of nitrate of silver, black wash, and spermaceti ointment.

When the ulcer cicatrizes, or heals, and any hardness remains, mercury should be given to promote its absorption, and the skin destroyed by the direct application of the nitrate of silver.

When the disease has been neglected, or a sufficient quantity of mercury has not been given, the constitution becomes affected in a time varying from six weeks to three months, which manifests itself by producing sore throat, disease of the skin, and inflammation of the eyes. These diseases must be severally treated by the remedies already recommended.

When a bubo becomes troublesome and painful, it should be well

leeched, fomented, and poulticed; and should it proceed to suppuration, the matter must be let out by a free incision with a lancet, as soon as fluctuation is felt.

During this disease, the patient should be warmly clad, he should rest as much as possible, and live on plain, unstimulating food. In the commencement, he should refrain entirely from spirits, wine, or fermented liquors; he should not expose himself to wet, damp, or the night-air, and he should pay strict attention to his bowels.

The syphilitic poison, when it has once entered into the system, is with great difficulty eliminated, and sometimes shows itself in children several generations removed from the person originally infected. It may be communicated by a pregnant woman to the child in her womb through the medium of her blood, by which the fetus is nourished; and thus, as in numerous other cases of disease, the children suffer for the sins of the parent.

On those parts which are essential to life, such as the brain, heart and abdominal viscera, this poison does not appear to be capable of exercising any destructive power; but the bones, muscles, tendons, and skin readily partake of its malignant nature. Hence we see so many persons dragging out a wretched existence, a misery to themselves and an eye-sore to society—left, as it were, by the Almighty to warn others against vicious practices, and point the moral of the preacher against vice and immorality.

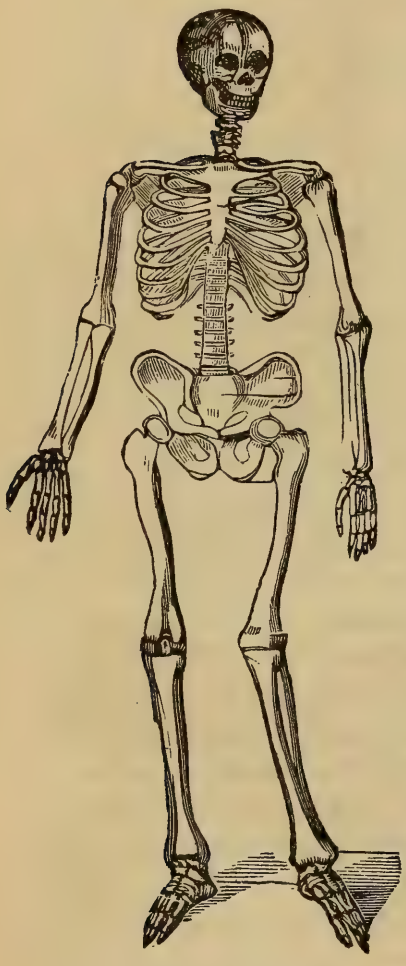
GENERAL ANATOMY OF THE HUMAN BODY.

THE BONES.

The number of bones in the human body is variable; but in the adult they are reckoned at about two hundred and forty-four. They are equally divided into long, flat, and irregular—long, as in the thigh and leg; flat, as in the skull and pelvis; irregular, as in the hands and feet. Bones are covered with a peculiar membrane, called the periosteum, which serves to conduct the blood vessels and nerves. The osseous skeleton is divided into head, trunk, upper and lower extremities. The trunk is divided into the spine, thorax, and pelvis. The thorax contains the principal organs of circulation and respiration, and is the largest of the three great cavities connected with the spine, and is formed by the sternum and costal cartilages in front, the twelve ribs on each side, and the dorsal vertebræ behind. The sternum is a flat, narrow bone, situated in the anterior part of the thorax, and connected with the ribs by means of the costal cartilages. The ribs are twenty-four in number, twelve on each side, of which the first seven are termed vetebro-sternal, or true ribs, and are attached to the sternum; three are attached to the costal cartilages, and are called vertebro-costal; and two are termed vertebral or floating ribs, from their anterior extremities being free. The pelvis, or lower cavity of the trunk, consists of four bones: the os sacrum and os coccygis behind, and the two ossa innominata on either side. The os coccygis, which forms the terminal bone of the spine, is sometimes regarded, like the os sacrum, as composed of four false vertebræ, which are at first distinct, but afterward become united. The ossa innominata are two irregularly-shaped bones, situated one on each side of the pelvis,

and consisting of three parts—the ilium, ischium, and pubis, firmly united in the adult, but distinct in the young subject. Each of the two upper extremities is composed of the bones of the arm, the forearm, and the hand, and is united to the trunk by means of the scapula and clavicle, which form the shoulder. The scapula is a flat, triangularly-shaped bone, placed upon the upper and back part of the thorax. The clavicle, or collar bone, is a long bone, something in the form of the italic letter *f*, and situated between the top of the sternum and the acromion process of the scapula. The arm has only one bone, the os humeri, which extends from the scapula to the bones of the forearm. The forearm consists of two bones, the radius and ulna, which are parallel, and play upon each other, thus admitting of freer motion in that part. The radius, so called from its resemblance to the spoke of a wheel, is situate on the outer side of the forearm. Its upper end is small, and forms only a small part of the elbow joint, while its lower extremity is large, and forms the chief part of the wrist joint. The ulna is placed at the inner side of the forearm, and differs from the radius in being larger at the upper than at the lower extremity. The bones of the hand are divided into the carpus, the metacarpus, and phalanges. The bones of the carpus, or wrist, are eight small bones, arranged in two rows, the upper row comprising the scaphoid, semilunar, cuneiform, and pisiform; the lower row comprising the trapezium, trapezoid, os magnum, and unciform. The metacarpal bones, or bones of the palm, are five in number, and correspond to the fingers. The phalanges, or bones of the fingers, are fourteen in number, each finger, with the exception of the

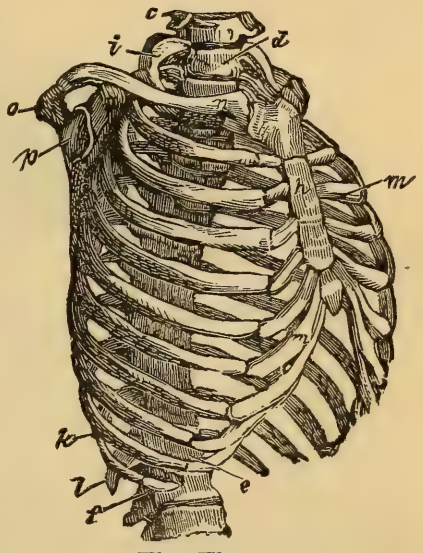
Fig. 75.



The Human Skeleton.

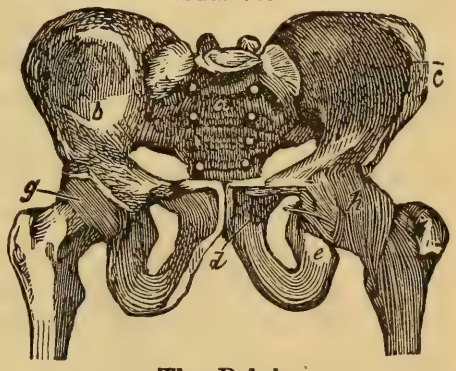
thumb (which has only two), having three of them. The upper and lower extremities bear a great resemblance to each other in the nature and form of their bones. Like the upper, each of the lower extremities consists of three distinct parts—the thigh, leg, and foot. The thigh is composed of a single bone—the os femur,—which is the longest and largest in the body. The upper part forms a round head, which is inserted into a deep cup-like cavity of the os innominatum, called the acetabulum: the lower terminates in two protuberances, known as the inner and outer condyles, separated posteriorly by a deep fossa, called the inter-condyloid. The leg consists of three bones—the patella, tibia, and fibula. The patella, or knee-pan, is a small, flat, triangular bone, of a spongy texture, situated at the anterior part of the knee-joint, between the femur and the tibia. The tibia and fibula in the leg resemble the radius and the ulna in the fore-arm: the tibia is, after the femur, the largest bone in the body. It is situate at the anterior and inner side of the leg, articulating with the femur above and the astragalus below. The fibula is considerably smaller than the tibia. Its upper extremity is small, and placed below the level of the knee-joint, but the lower extremity projects below the tibia, and forms the outer ankle. The foot, like the hand, is composed of three classes of bones—the tarsus, the metatarsus, and the phalanges. The tarsus is composed of seven bones—the os calsis, astragalus, cuboid, scaphoid, and three cuneiform. The metatarsal bones are long small bones, five in number, connected at the one extremity with the

Fig. 76.



The Thorax.

Fig. 77.

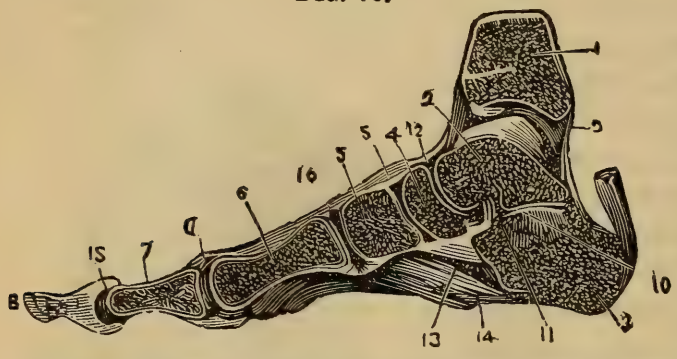


The Pelvis.

a, os sacrum; *b*, the iliac; *c*, fossæ, forming the lateral boundaries of the false pelvis; *g*, the acetabulum; *d*, os pubis; *e*, ischium; *f*, tuberosity of the ischium.

tarsal, at the other with the phalangeal bones: these last go to form the toes, each of which has three, except the great toe, which has only two.

Fig. 78.



Vertical Section of the Ankle Joint and Foot of the Right Side,

showing the formation of joints, the synovial capsules, and ligaments. The references are not given, as difficult and needless to remember.

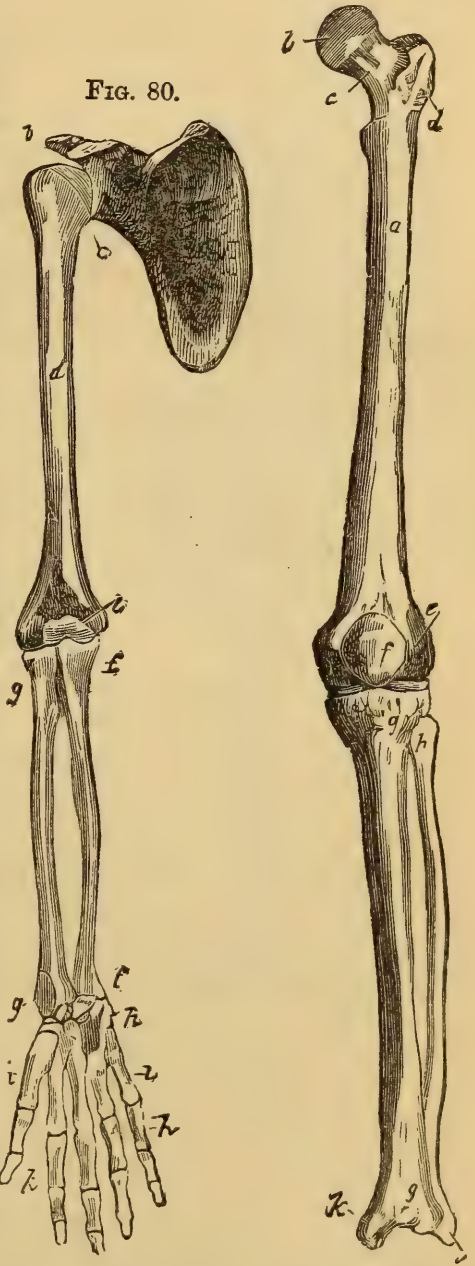
The different bones of the skeleton are connected together in various ways, and such connections are termed articulations. They are of various kinds, but are usually divided into immovable, movable, and mixed. Immovable articulations exist where flat and broad bones are united to inclose important organs, as in the cranium and pelvis. In some parts the edges indent or interlock each other; in others they are brought into close contact, or are united together by a thin layer of cartilage. The movable articulations are of various kinds, according to the kind of motion required. In such cases, the bony surfaces brought into contact are covered with cartilage, bound together by ligaments, and lined by synovial membrane. Mixed articulation prevails where only a slight degree of motion is required, combined with great strength, as in the vertebræ.

Bone is a highly organized and complex substance. It consists of animal and earthy, and saline materials, in the proportion of about one-third of the former to two-thirds of the latter; or, to speak more strictly, according to chemical analysis, we may say that in 100·00 parts there are 33·30 of cartilage and blood-vessels, 51·04 phosphate of lime, 11·30 carbonate of lime, 2·00 fluate of lime, and 2·36 magnesia and soda.

In the human frame the bones are of various forms and degrees of density, or hardness. Thus, in the limbs, they are hollow cylinders, combining lightness with strength; in the body and head they are chiefly flattened and arched, forming cases for the internal viscera; in the spine and extremities, they are in many pieces, to facilitate the bending of the numerous joints. Their connections with

each other are accomplished and preserved in many ways. In all bones, whether hollow or solid, the outer portion is harder than the inner; many of them are spongy, or, as it is scientifically termed, *cancellated*, and most of them have minute irregular cells scattered through their texture. At those extremities, where a smooth and elastic substance is required for the joints, most bones have a covering of *cartilage*. Bones are first developed in a gelatinous form, which hardens into cartilage, and then receives the deposit of lime, by which they are rendered firm; sometimes there is a deficiency of the earthy deposit, and thus the bones are bent and yielding. When there is too much lime the bones are too brittle and easily broken. One of the principal diseases to which the bones are subject is *Caries*. It acts on the periosteum like ulceration on the soft parts of the body. Another disease of the bones is *Necrosis*. It is, as its name implies, actual death of the osseous substance. Both these diseases are characterized by a constant gnawing pain in the bone. Swelling and redness over the seat of the disease ensues; there is a formation of matter and a discharge of a foul, fœtid character, communicating a dark stain to the dressings. Several openings in the skin may occur along the course of the diseased bone, of which occasionally small pieces may come away with the discharge.

FIG. 80.

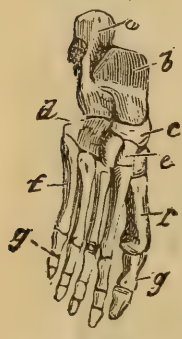


Bones of the Arm. Bones of the Leg.

Many minute blood-vessels pass into and through the porous tis-

sues of the bones, and hence they are liable to *inflammation* and *congestion*, both acute and chronic, resulting in softening, and ulceration or mortification, passing thus into *caries* and *necrosis*. That which is commonly called a *White Swelling* is a result of chronic inflammation. It ends in caries of the spongy texture of the ends of the bone, and destruction of their cartilaginous lining. *Abscess of bone* sometimes results from inflammation, and especially after acute disease, such as small-pox. A prominent symptom is a fixed pain in one spot, in addition to inflammatory enlargement.

Fig. 81.



Bones of the Foot.

Exfoliation is the death of the outer bony layer only. It is generally caused by some injury to the bone from a blow or a graze, or the amputating-knife. In this case the shell dies, and is replaced by fresh osseous matter coming up from beneath by granulations pushing the dead bone from its place in thin flakes or exfoliations.

THE MUSCLES.

These are the fleshy portions of the animal frame. It is by means of the muscular fibres that its various motions are effected,—all flesh being, in fact, Muscle devoted to this purpose. These muscles are bundles of fibres of a tubular structure, bound together by what is called areolar tissue. They are endowed with the property of contractibility, which operates under the influence of certain stimuli; but they contract after different manners, some doing so simultaneously, some alternately, and others successively. Some act in accordance with, and some altogether independent of, the will; and their strength and endurance depends chiefly upon the amount of nervous energy brought to bear upon them. A muscle never gets tired, however violently or continuously it may be exercised. The exhaustion is in the brain, not in the mechanism which it sets to work.

The action of the heart and lungs is unceasing, and this is produced by muscular contraction and expansion, and this is independent of the will; therefore it causes no sense of weariness. When we desire to walk or run, or take any kind of exercise, it is the brain that, through the nerves, stimulates certain muscles into action and keeps them so, until the desire for such action ceases. In this

case, we have fatigue and a sense of exhaustion supervening, sooner or later, according to the violence of the exercise, or the amount of nervous energy which the person possesses, and this is his physical strength.

The muscles, then, are the moving organs of the animal frame. They constitute, by their size and number, the great bulk of the body, upon which they bestow form and symmetry. In the limbs, they are situated around the bone, which they invest and defend, while they form to some of the joints a principal protection. In the trunk, they are spread out to enclose cavities and constitute a defensive wall, capable of yielding to internal pressures and again returning to its original position.

Their color presents the deep red which is characteristic of flesh, and their form is variously modified to execute the varied range of movements which they are required to effect.

Muscle is composed of a number of parallel fibres placed side by side, and supported and held together by a delicate web of areolar tissue; so that, if it were possible to remove the muscular substance, we should have remaining a beautiful reticular framework, possessing the exact form and size of the muscle, without its color and solidity. Towards the extremity of the organ the muscular fibre ceases, and the

Fig. 82.

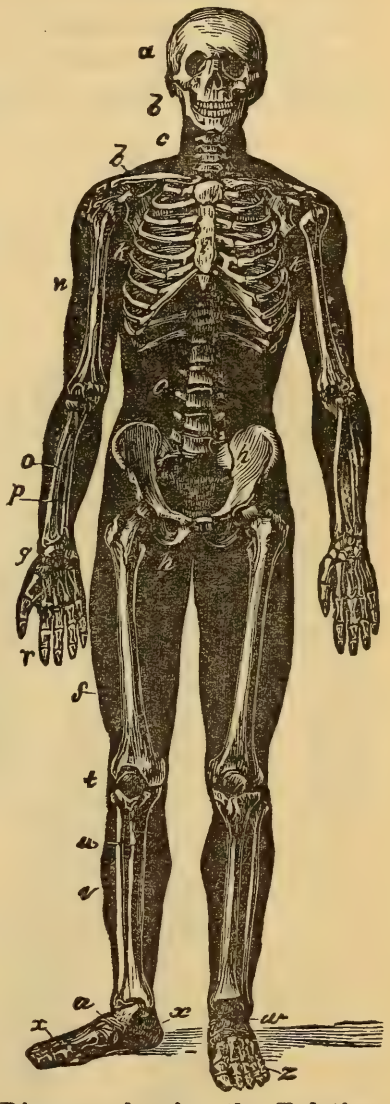


Diagram showing the Relation of the Bones to the Flesh.

a, The Skull; *b*, the Face; *c*, Cervical Vertebræ, or Neck-Bones; *d*, Breast Vertigo; *e*, Lumbar Vertebræ, or Spine; *f*, Os Sacrum, or Rump-Bone; *g*, Coccyx; *h*, Ilium, or Haunch-Bone; *i*, Sternum, or Breast-Bone; *k*, Ribs; *l*, Clavicle, or Collar-Bone; *m*, Scapula, or Blade-Bone; *n*, Humerus, or Arm-Bone; *o*, Radius, or Circular-Bone of Forearm; *p*, Ulna, or Large Bone of the Forearm; *q*, Carpus, or Hand-Bones; *r*, Phalanges, or Fingers; *s*, Femur, or Thigh-Bone; *t*, Patella, or Knee-Bone; *u*, Tibia, or Shin-Bone; *v*, Fibula, or Small Bone of the Leg; *u*, *w*, Tarsus, or Foot-Bone; *x*, Calcium, or Heel-Bone; *z*, *z*, Phalanges, or Toes.

fibrous structure becomes aggregated and modified, so as to constitute those glistening fibres and cords by which the muscle is tied to the surface of bone, and which are called *tendons*. Almost every muscle of the body is connected with bone, either by tendinous fibres, or by an aggregation of these fibres constituting a tendon, and the union is so firm, that, under extreme violence, the bone itself breaks rather than permit the separation of the tendon from its attachment.

Fig. 83.



The Muscular System.

a, Muscles of the Head; *b*, Visual Muscles; *c*, Cervical Muscles; *d*, Combination of the Cervical Muscles; *e*, Pectoral Muscles; *f*, Dorsal Muscles; *g*, Abdominal Muscles; *h*, Muscles of the Pelvis; *i*, Shoulder Muscles, *l*, Muscles of the Upper Arm; *m*, Anterior Muscles of the Forearm.

Muscles present various modifications in the arrangement of their fibres, in relation to their tendinous structure. Sometimes they are longitudinal, and terminate at each extremity in tendon, the entire muscle being *fusiform*, or spindle-shaped; in other situations they are disposed like the rays of a fan, converging to a tendinous point, and constituting a *radiate* muscle. Again, they are *penniform*, converging like the barbs of a feather to one side of a tendon, which runs the whole length of the muscle, or *bi-penniform*, converging to both sides of the tendon. In other muscles, the fibres pass obliquely from the surface of a tendinous expansion spread out on one side to that of another spread out on the opposite side. When composed of penniform or bi-penniform fasciculi, they are termed *compound* muscles.

It may be interesting, as well as useful, to enter a little more fully into the structure of muscle, which,

as before stated, is composed of bundles of fibres enclosed in an investment or sheath of areolar membrane, which is continuous with the framework of the muscular fibres, each bundle of which, termed a *fasciculus*, is composed of a number of smaller bundles, and these of single fibres, which, from their minute size, and independent appearance, have been called ultimate fibres; although microscopic examination informs us that each one of these is itself a fasciculus, made up of ultimate *fibrils* enclosed in an extremely delicate sheath called the *myolemma* or *sarcolemma*. The appearance of one of these bundles of fibrils, as magnified, is shown in Fig. 84.

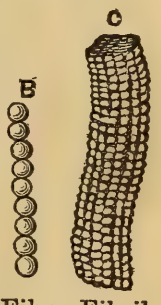
Fig. 84.



Muscular Fibrils.

Of the ultimate muscular fibre there are two sorts in the animal economy, viz., that of voluntary or animal life, called striated muscle, and that of involuntary or organic life, termed smooth muscle. The former is known by its size, its uniformity of calibre, and especially by its transverse markings, which occur at minute and regular distances. It also presents markings, or striæ, in a longitudinal direction, which indicate the existence of fibrillæ within the sheath, or myolemma, which is thin, transparent, and elastic. The ultimate fibres, or fasciculi, are polyhedral, or many sided, in shape, this form being due to mutual pressure; and that the sizes differ in different classes, genera, and even sexes of animals. The ultimate fibrils of animal life are beaded filaments, presenting a regular succession of segments and constrictions, the latter being narrower than the former, and the component substance probably less dense. The arrangement of a bundle of these fibrils in an ultimate fibre, is such that all the segments and constrictions correspond, and in this manner give rise to the alternate light and dark lines of the transverse striæ. The beautiful regularity of this arrangement may be seen by Fig. 85, in which B represents the ultimate *fibril* of animal life, and C the union of such in an ultimate *fibre*.

Fig. 85.



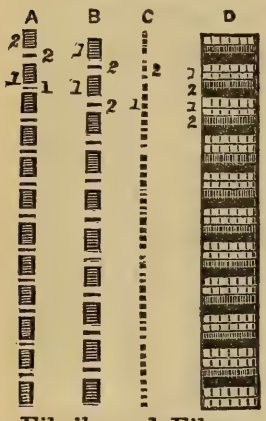
Fibre-Fibril.

We have mentioned that the ultimate fibril of animal life, although cylindrical, becomes polyhedral from pressure, when forming part of an ultimate fibre, or fasciculus. It measures in diameter 1-2000th of an inch, and is composed of a succession of cells connected by thin flat surfaces. These cells are filled with a transparent substance which has been called *myoline*. It differs in density in

different cells, and this circumstance imparts a peculiarity of character to certain of them, and causes the structures which they form to assume, under the microscope, a very beautiful and remarkable appearance, such as is represented in Fig. 86.

Let us explain a little more clearly how this is caused. When a fibril in its passive state is examined, there will be seen a series of dark oblong bodies, separated by light spaces of equal length. Now the dark bodies are each composed of a pair of cells, containing the densest form of myoline, and are hence highly refractive, while the transparent spaces are constituted by a pair of cells, containing a more fluid myoline. When the fibrils are collected together so as to form an ultimate fibre, the appearance of the cell is altered; those which look dark in the single fibril, that is, the most refractive, being ranged side by side, constitute the bright band, while the transparent cells of the single fibril are the shaded striæ of fibre. When the ultimate fibril is very much stretched, the two highly refractive cells appear each to be double, while the transparent space is evidently composed of four cells. This explanation may enable us to understand the annexed diagram (Fig. 86), to which we will now direct our attention. A is the ultimate muscular fibril, in a state of partial contraction; B the same, in a state of ordinary relaxation, in which we will suppose it to measure 1-2000th of an inch in diameter; C is the same fibril, stretched to the 1-5000th of an inch round; D represents the ultimate fibres, and shows the manner in which the transverse striæ are produced by the collocation of the fibrils. In 1, 1, we have a pair of the highly refractive cells, which form the dark parts of the single fibril A, but the bright parts of the fibre D; in the stretched fibril C, each cell appears to be double. 2, 2, is the pair of less refractive cells, light in the single fibril, but dark in fibre. The transverse septum between these cells is very conspicuous; and in C two other septa are seen to exist, making the number of transparent cells four.

Fig. 86.



Fibrils and Fibres.

Very different from all this in its form and arrangement, is the ultimate fibre of organic life, it being a simple homogeneous filament much smaller than the fibre of animal life,—flat, smooth, and without transverse markings. It is of a fusiform shape, and various length,

and consists of a thin external membrane, blended with a soft, homogeneous, or finely granular contained substance. Fig. 87 represents muscular fibres of organic life—D from the urinary bladder, and E from the stomach, both magnified 600 times, linear measure; the diameter of these two fibres midway between the thick parts, or nuclei, being 1-4750th of an inch.

Fig. 87.



Muscular Fibres.

This kind of muscle is distributed very abundantly in the animal frame, and is met with in all situations where a distinct contractile power, independent of mere elasticity, is required.

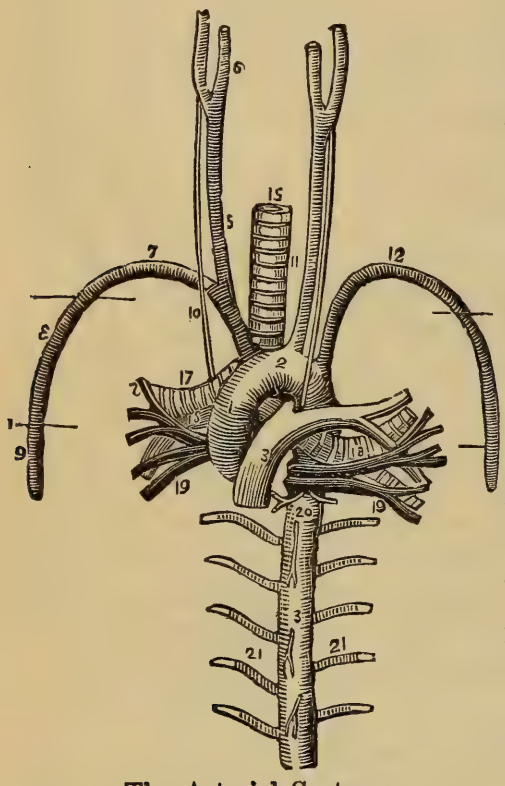
THE ARTERIES

are vessels which convey the blood from the heart,—formerly supposed, from their being found empty after death to contain only air. The arterial system of the human frame is that which performs one of the most important functions on which vitality depends. Proceeding directly from the heart, and ramifying in every direction, through all the various tissues of the body, it conveys the blood, after it has received a supply of oxygen from the lungs, and been passed into the great organ with which the arteries are connected, wheresoever it is required for the purposes of life. These arteries are membraneous cylindrical tubes, composed of three coats, viz., the *external*, which is firm and strong, formed of tissues which take a longitudinal or oblique direction; the *middle* or *contractile* coat, which is thick and *laminated*, that is, composed of *laminæ*, scales or plates arranged in layers; and the *internal* coat which is the thinnest of the three, and is easily broken in a transverse direction. Much might be said about the peculiarities of these several coats, but the above is perhaps sufficient for our purpose. The arteries are so constructed as to be capable of considerable extension, and likewise of bearing a great amount of strain and pressure, to which they are occasionally subjected, and which results sometimes in a rupture.

The whole of the arteries of what is called the *systemic* circulation, proceed from a single trunk termed the *aorta*. This main trunk or channel proceeds from the left ventricle of the heart, and contains the pure arterial blood, known by its bright red color, and issuing, when it makes its escape at any accidental opening, in jets, in accordance with the pulsations. From these the smaller arteries

are given off as branches, dividing and subdividing to their ultimate ramifications, constituting the great arterial tree, of some of the principal branches of which, we here present our readers with, a cut, which represents the large vessels at the root of the heart and lungs. It is necessary here to refer to the minute explanation of the figured points of figure 88.

FIG. 88.



The Arterial System.

1, The ascending *aorta;* 2, the transverse portion of the arch of the same; 3, its thoracic portion, passing through the chest; 4, the *arteria innominata* springing out of the arch, and divided into the common *carotid;* 5, which again divides at 6, into the external and internal carotid, and 7 the right *subclavian* artery, which passes into the *auxiliary* artery, 8, whose extent is indicated by the dotted lines; this again runs into the *brachial* artery, which forms the channel of supply to the right arm. The two lines 10 are a pair of nerves called the right and left *pneumogristric;* 11 is the left common *carotid,* and 12 the left *subclavian,* becoming auxiliary and brachial in its course, like its fellow on the opposite side; all these belong to the greater *systemic circulation,* as do also 21, *intercostal* arteries, and the branches from the front of the aorta above and below 3, which are *pericardine* and æsophagial, pertaining to the pericardium and the æsophagus, and abdoman.

We now go back on the diagram to No. 3, the trunk of the pulmonary artery, which emanating from the right ventricle of the heart conveys the impure blood, returned there by the veins to the lungs for aeration. This is the main channel of the lesser or pulmonary circulation, it is connected with the concavity of the arch of the aorta by a fibrous cord, called the *ductus arteriosus.*

14, the left pulmonary artery, and 15 the right; 16 the trachea, or windpipe, the passage which communicates with the lungs, will serve to show the relative positions of these arteries; 17 and 18 are the right and left bronchus, and 19 are the pulmonary veins; the rest of the numbers indicate the roots of the lungs.

The arteries do not, as was at one time supposed, run immediately into the veins, but are connected with them by what are called the capillaries, a hair-like network of vessels so minute that it requires a microscope to make them out; these are, it is said, about 1-3000th of an inch in diameter, and they are distributed through every part of the body so thickly as to render it impossible to pass a small needle into the flesh without wounding several of them; hence the flow of blood from a prick; it is through this medium that all the phenomena of nutrition and secretion are performed; they are all

small alike, and are joined on the one hand with the terminal ramifications of the arteries, and on the other with the minute radicles of the Veins.

The capillary vessels have but one coat, which is transparent and fibreless; as they approach the arteries and veins this coat becomes thicker, and, in accordance with the substance thereof, they are distinguished as fine or coarse; the latter gradually augmenting in size and complexity of structure become what are called transitional vessels. The following is the cut of a minute artery from the brain shewing its transition into capillary vessels.

Fig. 89.



Artery from the Brain.

1. Minute artery. 2. Transitional capillary. 3. Coarse capillary, the thick coat being represented by the double lines of contour. 4. Fine capillary, the black marks indicate the position of certain nuclei dispersed over the inner surfaces of capillaries, transitional vessels, arteries and veins constituting in the two latter the epithitial layer of the inner coat.

The capillaries are most abundant in the lungs, liver, kidneys, and other secreting glands, also in the skin, and mucus membrane; and they are smallest and least abundant in the muscles, nerves, organs of sense, and those tissues where nutrition only is to be accomplished; they are large in the bones, but not numerous, interweaving, as in many parts they do, into a minute network called a Plexus. The extreme beauty of arterial arrangement will be best exhibited by Fig. 90, showing the course and distribution of the Superior Mesenteric Artery.

Even the non-professional reader will see at a glance how admirable is the arrangement of the various tissues and organs, around which the arteries wind and ramify, communicating with and supporting each other, and conveying the vital fluid in every direction: truly we are fearfully and wonderfully made.

A particular description of all the several arteries could scarcely be looked for in a work like the present. It has already been seen that they are very numerous, although we have alluded to but few of them comparatively; some of them lie deep amid the internal viscera; others, as the femoral, passing down the thigh, the temporal, which traverses the forehead, the carotid, in the neck, and the bronchial, and other arteries of the arm, which are most likely to be wounded in the act of venesection, come very near to the surface, in

some cases protected from injury only by the loose ariolo-fibrous investment which separates all arteries from the surrounding tissues and is called a sheath, and the skin: in such positions it is that the medical practitioner applies to them for information respecting the action of the heart, that great index of the state of the system, whose every beat, or act of forcing out the blood, they record by a distinct Pulsation.

Fig. 90.



The Superior Mesenteric Artery.

A, is the decending portion of the Duodenum; B, is a transverse section of the same; C, the Pancreas; D, Jejunum; E, Ilium; F, Coecum, and Appendix Vermiformis; G, Ascending Colon; H, Transverse Colon; I, Descending Colon; J, Superior Mesenteric Artery; K, Colica Media; L, the branch which Inosculates (or joins by little mouths) with the Colica Sinistra; M, Inferior Pancreatic Duodenum; N, Colica Dextra; O, Ilio Colica; P, Vasa Intestini Tenous.

THE VEINS.

These are the vessels which return the blood to the auricles of the heart, after it has been circulated by the arteries through the various tissues of the body. They are much thinner in substance than the arteries, so that when emptied of their blood they are flattened and collapsed.

Arteries are the channels through which blood passes from the heart to the various parts of the body. Veins are the channels by which it returns to that organ, and to the lungs, to be purified, and again rendered fit for its vital purposes. These two different channels of circulation do not communicate directly with each other, but are connected by the minute branches which they each throw out, and which are called capillaries. These ramify all through the extremities, and all over the surfaces of the body, conveying arterial and taking up venous blood, which is passed into the smaller veins, thence into the larger, and so proceeds upward to the great fountain from which it set out, constantly receiving fresh accessions from the tributary veins which pour into the main channels on every side. Veins admit of a threefold division—into superficial, deep, and sinuses.

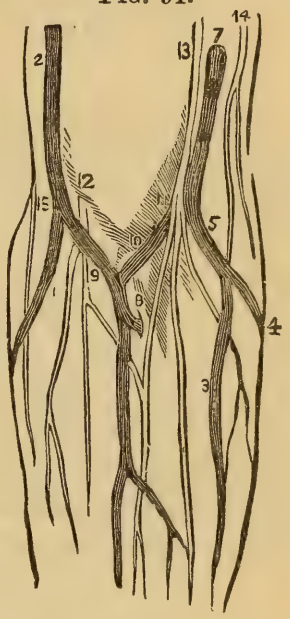
Superficial Veins return the blood from the integument and superficial structures, and take their course between the layers of the upper fascia. They then pierce the deep fascia, in the most convenient and protected situation, and terminate in the

Deep Veins, which are situated among the deeper structures of the body, and generally in close proximity with arteries. In the limbs they are enclosed in the same sheath with these vessels: these return the blood from the capillaries of the deep tissues.

Sinuses differ from these veins in their structure, and also in their mode of distribution, being confined to special organs, and situated within their substances. The principal venous sinuses are those of the dura mater, diploe, cancellus structure of bones, and uterus.

One very remarkable feature of veins is their numerous *valves*, which are composed of a thin stratum of nucleated areolar tissue mingled with fine elastic fibres, and coated on the two surfaces with fine elongated cells. The segments, or flaps, of these valves are semi-lunar in form, and arranged in pairs, one on either side of the vessel generally, but sometimes there is a single flap which has a spiral direction, and occasionally there are three. The free border of the valvular flaps is concave, and directly forwards, so that while the current of blood is permitted to flow freely towards the heart, the valves are distended and the current intercepted, if the stream from fullness of the veins above, or other causes, should turn back. When we consider that the course of the venous current is upward, and so opposed to the law of gravitation, we shall see at once the wisdom of such an arrangement. On page 184 will be found a cut of a valve of the heart, which

FIG. 91.



The Principal Veins in the Forearm and Bend of the Elbow.

1, the Radial Vein; 2, the Cephalic; 3, the Anterior Ulnar; 4, the Posterior Ulnar; 5, the Trunk, formed by their union; 6, the Basilic, which at 7 penetrates the deep fascia; 8, point of communication between the deep veins of the forearm and the upper part of the Median; 9, Median Cephalic; 10, Median Basilic; 11, a convexity of the deep fascia, formed by the Brachial Artery; 12, External Cutaneous Nerve, which pierces the deep fascia, and dividing into two branches, passes behind the Median Cephalic Vein; 13, Internal Cutaneous Nerve, dividing into branches, and passing in front of the Median Basilic; 14, Intercosto Humeral Nerve; 15, Spiral Cutaneous Nerve.

will give a good idea of the general conformation of those of the veins. In those of the extremities, particularly the deeper ones, they are most numerous. In the portal and cerebral, and very small veins, and those of the viscera, they are generally absent, and altogether so in the large trunks.

THE GLANDS.

A gland is an organ of the body, in which secretion is carried on, and which consists of a congerie of blood-vessels, nerves, and absorbents.

There are two primary divisions under which the glands are commonly placed. These are—First, those employed in secreting some particular fluid for the use of the body, such as the *Liver*, which secretes bile, and purifies the blood; the *Kidneys*, which secrete urine; and the *Salivary Glands*, which secrete the saliva. Second, the *Absorbent Glands*, and vessels whose office is to carry off the waste materials of the machine. The *Pancreas* and the *Spleen* should also be placed in the first of these divisions, although their peculiar offices in the animal economy is somewhat obscure.

THE BLOOD.

The blood is a red fluid circulating through the heart, arteries, and veins of animal bodies, serving for the nourishment of all their parts, and the support of life. This nutritive fluid, called scientifically the *Liquor Sanguinis*, consists, firstly, of water, holding, in a dissolved condition, fibrine, albumen, potassium, and sodium, together with phosphoric acid and other substances; secondly, of corpuscles, or globules, which float in the *liquor sanguinis*. When drawn from the body, the blood undergoes a remarkable change. By degrees it gelatinizes, and forms spontaneously coagulum and serum. Coagulum consists of the fibrine and the corpuscles; serum, of water, albumen, and the various saline matters. The corpuscles are of two kinds—red and white, the red being the more numerous.

Blood is termed arterial or venous, according to the vessel in which it circulates. Arterial blood is a florid red, with a stronger odor and less specific gravity than the venous fluid. Venous blood is of a dark purple. The scarlet, or arterial blood, which is one degree warmer than venous blood, owes its color to its undergoing

contact with atmospheric air in the lungs. It circulates in the pulmonary veins, the left cavities of the heart, and the arteries, by which it is distributed to the different organs throughout the body. The dark purple blood circulates in the veins, in the right cavities of the heart, the pulmonary artery, and the lungs. There is, again, a difference between arterial and venous blood in respect to the gases which they contain. The first holds a supply of oxygen; the second is rendered impure by the carbonic acid with which it is loaded.

FIG. 92.



Corpuscles of the Blood.

1, 2, 1, Blood Corpuscles, as seen on their flat surface and edge; 2, Congeries of Blood Corpuscles in columns. In coagulating, the Corpuscles apply themselves to each other, so as to resemble piles of money. 1 (below), Blood Globules, or Cells, containing smaller cells, which are set free by the dissolution of the containing cell.

Blood is the product of the elaboration of chyle, and acquires its nutritive and life-giving qualities in respiration. By means of the arterial vessels it penetrates to all the organs, distributing nutrition to every organic tissue. It is, moreover, the principal source of animal heat; from it, also, the secretive organs derive their various products, such as saliva, bile, urine, &c. The average quantity of blood in an adult man has been calculated at twenty-eight pounds, or pints. It has been shown that the composition of the blood undergoes a change in various diseases; and, after repeated bleedings, the number of corpuscles becomes permanently diminished. The color, as well as the composition of the blood, varies in different sections of the animal kingdom: red in the vertebrates and annelides; white and transparent as water in insects and crustaceans; bluish-white in mollusca; yellowish in holothurians and some other invertebrates. This difference in color arises from the corpuscles, which are in some cases red, and in others white or straw-colored, or bluish-white.

The chemical constituents of blood, when in a healthy condition, are—albumen, fibrin, hæmatin or coloring matter, oleic, stearic, lactic, phosphoric, sulphuric, and hydrochloric acids, in combination with soda, potash, ammonia, lime, magnesia, and a small portion of phosphorized fat. The blood also contains oxygen, nitrogen, and carbonic acid. In considering the chemical constitution of the blood, it may be regarded as consisting of two parts—the *liquor sanguinis* and the blood corpuscles floating therein. The *liquor sanguinis* is

composed of serum, holding a very small quantity of fibrin in solution. Taking the blood as a whole, Liebig gives its component parts as follows:—

Water,	80
Solid matter,	20

The solid matter, on being icinerated, gives $1\frac{1}{4}$ to $1\frac{1}{2}$ per cent. of ash, which consists of one-half sea-salt, one-tenth of peroxide of iron, and the rest of lime, magnesia, potash, soda, phosphoric acid, and carbonic acid.

DISEASES OF THE GENERAL SYSTEM.

ANEURISM.

Aneurism has been defined as a pulsating tumor, containing blood, and communicating with the interior of an artery.

Aneurisms may be internal or external. In the former case, being so situated in the cavities of the body—as in the abdomen, chest, or cranium—as to render the nature of the disease often very doubtful; in the latter, they are so placed in the limbs that access may be easily had to them.

Causes.—The whole arterial system is liable to aneurisms; but they occur much more frequently internally than externally, and oftener in those main trunks near the heart than elsewhere. They usually occur in persons of advanced age, such being most liable to calcareous depositions of the coats of the arteries, which are among their predisposing causes, with which may also be named violent contusions, abuse of spirituous liquors, frequent use of mercurials, fits of anger, extension of the limbs, straining, and violent exertion of any kind. Gunshot, and other wounds, also frequently cause aneurisms, which few persons long addicted to intemperate habits escape.

Symptoms.—In the early stage there is a small tumor, pulsating very strongly, more or less evident to the sight and touch, according to the depth at which it is seated. Sometimes its presence is only known by the rapid pulsation, and pain, and tenderness of the part. Sometimes, only as it interferes with the functions of some important organs, producing impeded respiration, cough, and other distressing symptoms, and ending in death; for which, without a post-mortem examination, the physician can assign no adequate

cause. For the internal form of the disease no remedial measures can be advised. They depend so much upon situation, and other varying circumstances, that only the medical practitioner can judge of the means to be employed.

Treatment of external aneurisms.—This must also depend very much on circumstances. They are often formed on the principal arterial trunks of the upper and lower extremities, or of the neck, as in the carotid. The pulsating tumor, at first filled with fluid blood, which can be pressed out if the finger is passed gently along it,—gradually becomes firmer and harder, assuming the character of a solid swelling, retarding the circulation by pressure on the surrounding parts, and causing muscular spasms, cramps, and sudden twitchings. If situated near the joint of a limb, the motion thereof becomes impeded, and inflamed swelling of the whole part often ensues; the cuticle covering the aneurism assumes the appearance of a blistered surface; finally, the sac opens, blood issues forth, which continues to flow from time to time, and the patient dies from weakness occasioned by loss of blood, or by the setting in of gangrene, which spreads up the limb, should it not be timely removed, and so causes death. Pressure upon the artery, so as to stop the flow of blood into the sac, has been recommended of late; but it causes greater pain than can be generally endured, and does not appear to have answered in the majority of cases in which it has been tried. A surgical operation appears to give the best chance of a cure; and this, which consists in dividing and tying the artery on which the aneurismal tumor is situated, can be attempted by no unprofessional person.

No external irritant liniment or friction must be applied in aneurism; nor fomentations and other hot applications. When the bleeding has commenced, the strength must be sustained by good nourishing diet; but, until it has, it is best to keep the system low. Active exertion must be avoided, both mental and physical, and also pressure upon the part affected.

ABSCESS.

Abscess is a collection of matter produced by inflammation.

Causes.—It arises from previous inflammation of the inner surface of the skin and its surrounding parts, which did not pass off by gradual cessation, but a cavity (filled with matter) was formed, which is termed an abscess.

Symptoms.—The inflammation of the part quickly subsides; a heavy, dull, cold sensation of the part, instead of acute pain; frequent signs, or shivers, through the frame; and the top of the tumor appears soft and white; all around is redder.

Treatment.—Take a slightly cooling and gentle aperient. If the abscess goes on regularly, leave it undisturbed until its pointed shape and the thinness of the skin show its fitness for lancing. Do not squeeze it. Foment the part with hot flannel, and apply a poultice of linseed-meal mixed with milk and water, or bread mixed with oil. In parts where the poultice is difficult to retain, it must be put into a bag made of muslin or lena, with a tape attached to each corner of the bag to fasten it on and retain it in its place. The poultice should be renewed every six or eight hours, and continued for some days. After discharging pretty freely, a slip of lint should be inserted by a probe, and renewed once or twice a day, according to the nature of the discharge. After this the part should be supported by a bandage, or slips of adhesive or soap plaster to facilitate contraction; and the aperture should be left open to facilitate the discharge. Good matter is about the color and consistency of cream, with no smell and scarcely any taste. If this is not the case, the matter is unhealthy, and the sore is not doing well. When healed, tonic medicine and change of air should be resorted to. During the continuance of the abscess, the patient should live on food which is plain and nutritious, without being stimulating, avoiding at the same time—except under extraordinary circumstances—wine, spirits, and beer.

BED SORES.

The constant pressure of certain portions of the body upon the bed or mattress frequently produces in invalids excoriations which are known by the above name.

Treatment.—When the skin becomes red and inflamed, and painful to the touch, immediate steps should be taken to prevent if possible an abrasion of the skin. Mix two teaspoonfuls of brandy with a wine-glassful of hot water, with thirty drops of tincture of arnica. Dab the part with this, and dry with violet powder. Or, either before or after the skin breaks, dip a camel-hair brush into collodion, and brush the inflamed surface over, repeating the operation from time to time until the part is healed.

BALDNESS.

This is caused by the disorganization of the root or bulb of the hair, and may proceed from age, general derangement of the functions, or local disease. When baldness proceeds from age, the hair can never be restored.

Treatment.—Mix well together liquor of ammonia, one ounce; camphorated alcohol, one-and-a-half drachms; bay salt, half ounce; water, one pint. With this mixture bathe the head three times a day. Afterwards, rub well into the scalp a pomatum made of fresh hog's-lard three and a quarter ounces, and grated camphor one ounce. The action of the sedative water restores the capillary circulation which forms the bulb of the hair, and imparts new life to the organ. The pomatum assists and favors the growth.

Or use either of the following: Castor oil, one and a half ounces; tincture of cantharides, half an ounce. Mix well together, and rub the bald part with it night and morning. Or use lard, made to a thin consistence with rum, rubbed in night and morning.

CANCER.

A cancer is an ulcer of the worst kind, with an uneven surface, and ragged and painful edges. It spreads in a very rapid manner, discharges a thin acrimonious matter, and has a very fœtid smell.

Causes.—It is found that persons of scrofulous constitutions are most liable to this complaint. It arises most frequently from a blow, or some other external injury, but now and then from previous inflammation, also by suppressed evacuations. Women are more liable to it than men, especially the latter about the change of life.

Symptoms.—It mostly is about the glands or glandular structure, the breast, nose, &c., externally; internally, the liver, womb, &c. It first appears a hard tumor, of about the size of an hazle-nut, which remains stationary awhile, then it begins to enlarge, shoots out roots; the color of the skin begins to change, first red, afterwards purple, then livid, and at last black; shooting excruciating pains; the place enlarges, until at last it bursts, then a little ease is got; but if the disease is not now stopped, the place extends until it bursts some blood-vessels, or reaches some vital part and destroys life. Therefore immediate means should be taken to cure, wherever cancer is found to exist, even in the most incipient form.

Treatment.—Diet light but nourishing, avoiding salted or highly seasoned provisions, or strong liquors. In all cases of *Schirrus* or *Unbroken Cancer*, try to disperse it without breaking, if possible. Use the following:—

Hydriodate of potash,.....1 drachm.
Fresh lard,.....3 ounces.

Mix well; rub on the size of an hazel nut, twice a day for a fortnight; then cease for a week, and apply a poultice of figs boiled in milk, for three or four days; then apply the ointment again, and continue doing so. This has disposed of many suspicious tumors. Take internally the following:—

Calomel, ...1 scruple.
Emetic Tartar,.....6 grains.
Precipitated Sulphuret of Antimony,.....2 scruples.
Gum Guiacum,.....2 drachms.
Conserve of Hops, sufficient quantity.

Rub well together, and divide into forty pills. One to be taken every night, and the following in the daytime:—

Compound Infusion of Gentian,.....12 ounces.
Tincture of Calumba,..... 1 ounce.
Carbonate of Ammonia,..... 1 drachm.

Mix. Take three table-spoonfuls three times a day. After taking this for a week, substitute the following pills instead of the draught:—

Oxyphosphate of Iron, ... ½ ounce.
Compound Ipecacuanha Powder,.....1 scruple.
Powdered Aloes,..... ....6 grains.
Mucilage of Gum Arabic, sufficient quantity.

Mix, and divide into sixty pills. Take one three times a day. If those methods of treatment (which must be persisted in for some time) do not succeed, and it becomes a broken cancer, the internal remedies may continue the same. Apply a carrot poultice, or the following will be good:—

Dried Hemlock,.....1 ounce.
Cammomile Flowers, ...1 ounce.
Boiling Water,.....1 pint.

Boil ten minutes, and add to the strained decoction linseed-meal in sufficient quantity to make a poultice; oil well, and apply warm twice a day.

Continue this occasionally, till the diseased parts are destroyed. In

all cases keep the place covered with dressings, with oiled silks or sheet of gutta percha, to keep the air off. In internal cancer, in addition to the preceding internal remedies, either or both of the following may be taken alternately with the second and third of the above formulas:—

Guiacum Wood Raspings,.....3 ounces.
Raisins Stoned, ...2 ounces.
Sassafras Shavings,.... .....1 ounce.
Liquorice Root, sliced,.....½ ounce.

Boil the guiacum and raisins in a gallon of water, until it is reduced to five pints, then put in the sassafras and liquorice, and continue boiling until reduced to four pints; then strain, leave to settle till clear. A pint may be taken daily, at about four times. Or the following:—

Sarsaparilla Root, sliced and bruised,.....6 ounces.
Liquorice Root, bruised,..... ....1 ounce.
Bark of Root of Sassafras,.....1 ounce.
Shavings of Guiacum Wood,.....1 ounce.
Bark of Root of Mezereon..... .....3 drachms.
Distilled, or Rain-Water,.... .....10 pints.

Macerate with gentle heat for six hours, then boil to six pints; add the mezereon, then boil down to five pints, and strain. Take three-quarters of a pint daily.

CORPULENCE.

This, when it arrives at a certain height, becomes a real disease. The accumulation of fat about the kidneys and mesentery, swells the belly and prevents the free motion of the midriff, and so causes a difficulty of breathing.

Causes.—A free indulgence in good living, with an easy mind; indolent or sedentary life, are the causes of corpulence in any one whose constitution predisposes them to feed.

Symptoms.—The muscles of the body gradually enlarge, and the person is not so active as heretofore; is exhausted or out of breath, on less exertion than previously; and the circulation is impeded through the accumulations of oily or fatty matter.

Treatment.—Gradually reduce the usual quantity of aliment; take less nutritious substances for food; drink sparingly, especially of malt liquors; use regular and daily active exercise, abstain from

suppers, take short rest, sleep but few hours, and rise early every morning. By a rigid pursuance of these means for a due length of time, the most corpulent and unwieldy man or woman will be reduced within moderate bounds, with an acquisition of health, strength, and vigor. In addition to active exercise, the body should be rubbed with a pomatum made of lard three and a quarter ounces, and camphor one ounce. This to be heated and mixed over the fire, and afterwards suffered to cool. Afterwards take five grains of aloes every four days, and employ the following clyster every morning:—

Linseed, ... 1 ounce.
Rose Leaves, ... 1½ drachms.
Bay Salt, ... 3 drachms.

Boil the ingredients for twenty minutes in a quart of water. Just before taking the decoction off the fire, add to it camphorated oil one and a half drachms.

CRAMP.

Cramp is an affection usually caused by exposure to cold and damp.

Treatment.—Foment the part affected with warm water, with a little mustard mixed in it. Drink nothing cold, and take a little brandy and water; put the feet in warm water, and endeavor to produce a perspiration; take two or three times a day a dose of Peruvian bark in a little wine, or a little ginger and water. Or the following:—

Water of Ammonia, or Spirits of Hartshorn, ... 1 ounce.
Olive Oil, ... 2 ounces.

Shake them together till they unite, and rub it on the affected part with the hand. In severe cases use the following:—

Strong Liniment of Ammonia, ... 1½ ounces.
Oil of Turpentine, ... 1 ounce.
Spirits of Camphor, ... 1 ounce.
Hard Soap, ... 4 drachms.

Mix the whole well together, and apply it to the part on flannels heated and moistened. When the cause of cramp is constitutional, the best preventives are warm tonics, such as the essence of ginger and camomile, Jamaica ginger in powder, &c., avoiding fermented liquor and green vegetables, particularly for supper, and wearing flannel next the skin.

DROPSY.

Dropsy consists of an unnatural accumulation of serous or watery fluid, in various parts of the body. Persons of all ages are liable to it. It is divided into five kinds, according to the part affected: first, dropsy of the skin, generally called *anasarca;* second, dropsy of the belly, called *ascites;* third, dropsy of the chest, called *hydrothorax;* fourth, dropsy of the head, or water in the brain, called *hydrocephalus;* fifth, scrotal bag, called *hydrocele.*

Causes.—Excessive and long-continued evacuations, weakening the system; a free use of fermented or spirituous liquors; confirmed and incurable indigestion; diseases of the liver, spleen, pancreas, mesentery, or others of the viscera; preceding diseases, as asthma, scarlet fever, &c.; anything debilitating the digestive organs; sometimes from family predisposition.

Symptoms.—This disease generally commences with swelling of the feet and ankles toward night, which for a time disappears in the morning. The swelling, when pressed, will pit; it gradually ascends till the whole body is swelled, in the first sort, and the belly in the second sort; the urine scanty, thick, and high-colored; thirst is great, breathing difficult, especially in the third sort, and a troublesome cough; the flesh wastes, and the patient weakens; in the fourth sort, pains on the top of the head, and often convulsion or apoplexy; in the fifth sort, the scrotal bag is much enlarged, and much pain in consequence.

Treatment.—The diet must be of a dry heating nature, using pungent vegetables, as garlic, mustard, onions, cresses, horseradish, shalots, &c., and the flesh of wild animals. Avoid drinks as much as possible; quench the thirst with acid liquors, mustard whey, and the like; and take some of the following:—

Cream of Tartar,	1 drachm.
Sulphate of Potass,	10 grains.
Rhubarb in Powder,	5 grains.

Take in pumpkin-seed tea two or three times a day. Or use the following:—

Powder of dried Squill-Root,	2 grains.
Blue Pill,	5 grains.
Opium,	½ grain.

Dose, one pill at bedtime for four or five nights, followed by the above powder the morning after.

In dropsy of the chest or head, blisters are almost indispensable, and are always applied to great advantage; and, if kept running for some time, are very beneficial. After the water is removed, live well and temperately. Take tonics and strengthening food.

Herbal, or Eclectic Treatment for Dropsy.

Many cures have been effected by using a decoction of burdock. Boil two ounces of the fresh root in three pints of water till reduced to two. Drink the whole in the course of two days.

A teaspoonful of saltpetre taken every morning is said to have cured many.

From one to four teaspoonfuls of the expressed juice of the inner bark of the elder, taken every four hours, till it operates freely, is of great service.

To promote perspiration an adult may take every night at bedtime four or five grains of camphor, one grain of opium, and as much syrup of orange-peel as is sufficient to make into a bolus.

DEBILITY.

General Debility is a falling off from the usual power of the individual to perform those exertions in which he has been habitually engaged.

Treatment.—Nourishing food, change of air, careful regulation of diet, cold shower-baths, and the following forms of medicine: Sulphate of magnesia, four ounces; sulphate of iron, eight grains; sulphate of quinine, ten grains; diluted sulphuric acid, one drachm; infusion of gentian-root, eight ounces. Dose, two tablespoonfuls twice or thrice a day. Or the following: Compound tincture of bark, one ounce; carbonate of ammonia, two scruples; water, eight ounces. Dose, two tablespoonfuls three times a day.

DEFECTIVE APPETITE.

The loss of appetite may arise from a variety of causes, as the excessive use of wines and spirits, the partaking immoderately of warm fluids, sedentary occupation, over-anxiety, excess of mental labor, impure air, &c.

Treatment.—Regulation of diet and change of air will be frequently found more beneficial than medicine. But to restore the

tone of the stomach, which is the chief aim, the following decoction may be taken: Peruvian bark, six drachms; cascarilla bark, two drachms. Bruise them in a mortar, and boil them in a pint and a half of water for a few minutes; strain off the liquor while hot, then add tincture of bark, two ounces; diluted nitric acid, one and a half drachms. Dose, four tablespoonfuls to be taken thrice daily. Bitter tonics are also advantageous. Rhubarb chewed an hour before dinner-time is also advantageous. One or two four-grain compound aloe-pills may be taken at noon with beneficial effect.

EXHAUSTION.

The diminished power either of the body generally, or of one or more of its organs, to continue its natural active operations, until it has been recruited by a period of repose.

Treatment.—As this derangement is commonly induced by excess of labor or continued exertion, in these cases the stomach is not receiving its full supply of nervous stimulation, and therefore its work must be made as light as possible, consistent with conveying proper nourishment into the system. Small quantities of food should be taken at a time, and more frequently repeated. In the majority of instances, the most efficient nourishment will be strong concentrated animal soup, either alone or with bread; and next in utility will be coffee or cocoa, along with bread or biscuit, or with the yolk of an egg beaten into them. The use of wines and spirits should be avoided as long as possible. But if extreme exhaustion exist, these latter will be found excellent agents for restoring the vital powers. A warm bath is also very grateful and efficacious in cases of exhaustion. Occasional doses of the following will stand in good stead:—

Peppermint-Water,	1½ ounces.
Sal Volatile,	½ drachm.
Sweet Spirits of Nitre,	12 drops.
Compound Spirit of Lavender,	1 drachm.
Syrup of Cloves,	½ ounce.

Mix. Dose, two tablespoonfuls. In cases of extreme exhaustion, the following may be used in aid of, or as a substitute for, stimulants: Chop some lean beef into small pieces, enclose it in a jar, and

set it in an oven, or on the stove for an hour and a half. It will then separate into three portions—fat, fibre, and liquid essence. Strain off the last, and separate the fat by means of a piece of blotting-paper, when a clear amber-colored liquid is obtained, of an intensely aromatic smell and flavor, very stimulating to the brain.

FŒTID BREATH.

The odor of the breath is a pretty correct index of the state of the body. When tainted, it is so not uncommonly from decayed teeth, or from a morbid secretion of the tonsils; but more frequently, in children especially, it is indicative of disordered stomach and loaded bowels.

Treatment.—Rinse the mouth out two or three times a day with a weak solution of soda or chloride of lime, or take half a tumbler-full of camomile tea on rising every morning, or wash the mouth with salt water in the morning, and clean the teeth afterwards with water mixed with wood ashes (a pinch of ashes to a glass of water).—The following is very efficient: Take of white sea-salt one and a half ounces; tartrate of potass and essential oil of bergamot or mint, of each two drachms; white sugar and gum-tragacanth in powder, of each eight ounces. Dry the salt, sugar, and gum by the fire, and reduce them to a very fine powder in a very hot mortar; make the powder into a paste with a little water and the essential oil; roll the paste out to about the eighth of an inch, and divide it into lozenges, Dry them in a dish or basin in the oven; when perfectly dry, cover them with a coating of gum-tragacanth, and dry them again afterwards quickly by the fire. Keep them in a well-closed box. These lozenges are simply chewed, and not taken internally, nor ought the saliva to be swallowed that is secreted while chewing them. When you have finished chewing, rinse the mouth with water. These lozenges will not only cure foulness of breath, but will take away the smell of tobacco, onions, &c.

FEVERS IN GENERAL.

A fever is the most general disease incidental to the human race. It attacks all ages, sexes, and constitutions, and affects the system throughout both body and mind. Most medical writers describe

many kinds of fever, with many minor sub-divisions, but they are all of a similar character, varying in intensity and something in their symptoms. They may be divided into three classes, viz., *continual*, *remitting*, and *intermitting*. A *continual fever* is that which never leaves the patient during the whole course of the disease. This kind of fever is divided into *acute*, *slow*, and *malignant*. The fever is called *acute* when its progress is quick, and symptoms violent; but when these are more gentle, it is called *slow*. When livid spots appear, showing a putrid state of humors, it is called *malignant*, *putrid*, or *black fever*. A *remitting fever* differs only from a continual in a degree: it has frequent increases and decreases, but never wholly leaves the patient during the course of the disease. *Intermitting fevers* (agues) are those which, during the time the patient may be said to be ill, have evident intervals and abatements of the various symptoms.

A fever is an effort of nature to free the body from some offending cause, and it only requires attention to observe the way nature points, and endeavor to assist her operations. Our bodies are framed so as to throw off, or expel, whatever is injurious to the health. This is generally by urine, sweating, stool, vomit, expectoration, or some other evacuation; and there are many reasons to believe if the efforts of nature were attended to and promoted at the beginning of fevers, they would seldom last twenty-four hours; but if the efforts are neglected or counteracted (as they often are), is it to be wondered at if the disease is to be prolonged, and in many cases made fatal? We here give a few general causes, symptoms, and remedies, which are applicable to most fevers at the commencement.

Causes.—The causes are mostly obstructed perspiration, neglected colds, intemperance, and sometimes infection.

Symptoms.—Sickness, squeamishness, sense of weakness or languor, pains in the head, back, and limbs; chillings or shiverings, alternately with hot fits, thirst, a foul furry tongue, unpleasant taste, a dry hot skin, and a quick pulse.

Treatment.—If the stomach is oppressed or overloaded, take a vomit, as follows: Flour of mustard, one ounce; warm water, half a pint: mix. Take half of it, and if it does not act in fifteen minutes, take the other half; drink warm camomile tea to help its operation; when it has acted freely, take a mild purgative. When the bowels have acted freely, take the following:—

Solution of acetate of ammonia.....	3 ounces.
Cinnamon Water.....	2 ounces.
Wine of Tartarized Antimony.....	2 drachms.
Syrup of Orange Peel.....	1 ounce.
Pure Water.....	6 ounces.

Mix, and take three table spoonfuls every four hours.

FEVER AND AGUE, (*Intermittent Fever.*)

A fever is said to be intermittent when it consists of a succession of paroxyms, between each of which there is a distinct and perfect intermission from fever symptoms. Agues are of three kinds, called *quotidan*; (the fit comes on about every twenty-four hours;) *tertian*, (or the fit comes on every forty-eight hours;) *quartan*, (or the fit comes on about every seventy-two hours.)

Causes.—Living or being exposed amongst stinking stagnant water, especially when acted on by heat; poor watery diet, great fatigue, sleeping in damp rooms or beds, wearing damp or wet linen; being exposed long and often to a moist atmosphere, suppression of eruptions, &c.

Symptoms.—The cold stage commences with a sense of langour and debility, and slowness of motion; frequent stretching and yawning; pain in the head and loins; sometimes sickness and vomiting; pulse small, frequent, and irregular; urine pale; to this succeeds a violent shivering and shaking, the patient feels very cold, and the breathing small, frequent and anxious, sensibility is much impaired. After a time these symptoms abate, and the second stage commences, with an increase of heat and fever all over the body, redness of the face, dryness of the skin, thirst, pain in the head, throbbing temples, the tongue furred, the pulse becomes dry, hard, full, and regular; when these have continued some time, a moisture breaks out on the forehead, which by degrees becomes a general sweat all over the body, the fever abates; the water deposits a sediment; the breathing and pulse are free, and the fit is over, but leaves the patient in a weak state.

Treatment.—In the cold stage, give warm diluent drinks, such as barley water, weak tea, or weak wine and water. Apply external warmth by means of extra clothing, hot bottles to the feet, mustard foot-baths, bags of heated bran, baked salt, &c. In this stage, an opiate is often beneficial; give twenty-five to thirty drops of lauda-

num, with an equal quantity of ether, in a glass of water. During the hot stage, an opposite mode of treatment must be adopted. Sponge the surface with tepid or cold water, give cold diluent or iced drinks, and administe a full dose of laudanum. When the hot stage has subsided into the sweating stage, the action of the skin should be encouraged by tepid drinks; and if the system is much exhausted, weak spirit and water in small quantities may be occasionally ventured on. During the intermissions, administer active aperients, as five grains calomel, with three grains of compound extract of colocynth: followed by a mild purgative. Give bark to an extent as great as the stomach will bear, and combine with it wine and aromatics, accompanied by a generous but light diet, and moderate exercise. Quinine is a very powerful agent in ague; two or three grains of this medicine, administered twice or thrice daily, with such nourishing diet as the patient can take, will, in ordinary cases, put a speedy end to the disease.—In cases of long standing, which resist the usual modes of treatment, the following remedy may be had recourse to: Iodide of potassium, one and a half drachms; peppermint water, twelve ounces; take two tablespoonfuls every four hours. One or two grains of sulphate of quinine may be added to each dose.—Agues are liable to return, and persons subject to the complaint are always made aware of its approach. In such cases, the fit may be rendered milder by taking one scruple of ipecacuhana in an ounce of water, as an emetic, an hour previously. Sick persons should also take occasional doses of sulphate of quinine twice a day for three or four weeks; in spring and autumn, especially, night air must be avoided; and the early morning air not attempted, until some warm fluid or food has been introduced into the stomach.

BILIOUS OR REMITTENT FEVER.

When a fever is accompanied with a frequent or copious evacuation of bile, either by vomit or stool, the fever is denominated bilious, most frequent in the country at the latter end of summer or beginning of autumn.

Causes.—Exposure to damp or night air; frequently from intemperance, when the body is disordered from cold or exposure, or similar to ague.

Symptoms.—Frequent flushings and shiverings, with vomiting, bilious phlegm, and sometimes purging, same as bilious diarrhœa.

Treatment.—Cleanse the stomach with the following: Emetic tartar, one grain; powdered ipecacuanha, fifteen grains; water, three table spoonfuls; mix and take; drinking warm camomile tea till it operates; and the bowels with this; Epsom salts, six drachms; glauber salts, three drachms; infusion of senna, seven ounces; tincture of jalap, half an ounce; compound tincture of cardamoms, one ounce; mix, and take two table spoonfuls every four hours, till it operates freely. Then take for a day or two the following: Subcarbonate of potash, four drachms; purified nitre, one drachm; syrup of saffron, six drachms; camphor mixture, twelve ounces; mix, take two table spoonfuls every four hours, with one of the following powders each time in the dose; citric acid or tartaric acid, half an ounce; divide into twelve powders, mix in the draught, and drink whilst effervescing.

When the fever has subsided take for a week or two the following pills: Sulphate of quinine, two drachms; extract of gentian, three drachms; mix well; divide into sixty pills, and take one every four hours. Then use the following excellent drink: Take well-crushed pale malt, three lbs.; dried wormwood, dried century, dried horehound, dried buckbean, dried betony, dried camomile, dried ground ivy, of each one ounce, (but if fresh, two ounces,) gentian root, sliced, one ounce, virginia snake root, sliced, one ounce; infuse all in two gallons of hot water, in a warm place, two hours, then boil together fifteen minutes, then strain off the herbs, &c., squeeze as dry as possible, put in two pounds of sugar, and boil again ten minutes; when cool enough, put in some fresh yeast; work it well for two days, then bottle in sound bottles, putting two table spoonfuls of brandy to each quart. This is remarkably good for weakness, &c. Take three table spoonfuls three times a day, with a tea spoonful of the compound tincture of bark in each dose.

ACUTE OR INFLAMMATORY FEVER.

This mostly attacks the young, or those about the prime or vigor of life, especially such as live well, and are full of blood. It attacks at all periods of the year, but is most frequent in spring and the beginning of summer.

Causes.—Anything that overheats the body, as violent exercise,

sleeping in the sun, drinking strong liquors, &c. It may also be caused by lying on the damp ground, drinking cold liquor when hot, being exposed to the night air, and the like.

Symptoms.—It usually commences with a chilliness, which is soon succeeded by a burning heat, quick full pulse, pain in the head, redness of the eyes, florid flushed countenance, dry skin, pain in the back, loins, &c. To these succeed difficulty of breathing, sickness, inclination to vomit, no appetite, restless, tongue black, furred, and rough, urine very red. Delirium, great oppression of the breast, laborious breathing, frequent startings, hiccups, and cold clammy sweats are very dangerous symptoms.

Treatment.—Sometimes bleeding is necessary, especially if there be much inflammation. If vomiting be indicated, give an emetic. About three hours after, give a purging draught. The next day take the following:—

Tartrate of Antimony,.....12 grains.
Loaf Sugar,..... 2 drachms.

Powder, and mix well together, and divide into twenty-four powders. Take one every three hours, in three tablespoonfuls of the following:—

Nitrate of Potash (Saltpetre),..... 1 drachm.
Solution of Acetate of Ammonia, ... 3 ounces.
Syrup of Orange-Peel, ... 1 ounce.
Pure Water,..... 8 ounces.

Mix. Take three table-spoonfuls as above directed. The thirst being very great, we recommend the following:—

Pearl Barley, Stoned Raisins, and Figs, of each,..... 4 ounces.
Liquorice-Root, sliced. ..... 1 ounce.
Water,..... 4 quarts.

Wash the barley well; boil a few minutes, then strain off; throw the water away, and put into four quarts of boiling water; boil the barley an hour, then add the raisins, figs, and liquorice, and boil down to two quarts; when boiled, add to it purified nitre (saltpetre), half an ounce. A teacupful occasionally to quench the thirst is very serviceable. The diet low and light—oatmeal or sago gruel, tapioca, or the like. Wash the patient occasionally with lukewarm water, especially the hands and feet; and sprinkle the chamber occasionally with vinegar, more especially if the weather be hot; and have some vinegar in a jar, and occasionally plunge a red-hot iron in it. This will purify the air much, and refresh the patient.

SLOW OR NERVOUS FEVER.

This is a very common fever amongst the sedentary, or those of weak, relaxed habits.

Causes.—Whatever depresses the spirits, or impoverishes the blood, as grief, fear, anxiety, want of sleep, intense thought, living on poor thin diet, unripe fruits, or cold moist things, as cucumbers, melons, mushrooms, or the like; also damp, confined, unwholesome air. Hence it is common in rainy seasons, or amongst those who live in low, damp, close places.

Symptoms.—Low spirits, want of appetite, weariness after motion, watchfulness, deep sighing and dejection of mind are mostly the forerunners of this disease. These are succeeded by a low quick pulse, a dry tongue, without great thirst, chilliness and flushing alternately. After some time the patient feels a giddiness and pain in the head, a sickly feeling, with retching and vomiting; the pulse is quick and intermittent, the urine pale, looking like dead small beer; the breathing difficult, with oppression of the breast, and sometimes slight delirium,—when towards the ninth, tenth or twelfth day, the tongue becomes moist, with a plentiful spitting, a gentle purging, or moisture on the skin, or some eruption takes place about the nose, lips, or ears. Then mostly all danger is past; but if there be excessive looseness, wasting sweats, with frequent fainting fits, the tongue when put out trembles much, the extremities feel cold, with a fluttering pulse, then great danger exists.

Treatment.—If the sickly feeling is great, give the following emetic:—

Powdered Ipecacuanha,	20 grains.
Wine of Antimony,	1½ drachms.
Pimento-Water,	1½ ounces.

Cleanse the bowels with the following purge:—

Powdered Rhubarb,	2 drachms.
Carbonate of Magnesia	1 drachm.
Tincture of Ginger,	3 drachms.
Compound Tincture of Cardamoms,	6 drachms.
Cinnamon-Water,	9 ounces.

Mix. Take four table-spoonfuls every three hours till it operates freely.

Take the mixture recommended for acute fever. When the fever is subdued, and the patient appears low, give the following cordial:—

Carbonate of Ammonia,	½ drachm.
Compound Tincture of Cinnamon,	3 drachms.
Syrup of Ginger,	6 drachms.
Compound Spirits of Lavender,	½ ounce.
Pure Water,	3 ounces.
Camphor Mixture,	8 ounces.

Mix. Take three table-spoonfuls three times a day. If delirious, a blister at the back of the neck may be of much service. The diet must be mostly light, but nourishing and good.

SIMPLE CONTINUED FEVER.

Simple Continued Fever is a complication of the acute and nervous, and is the most common. It sometimes lasts five, six, or eight weeks.

Causes.—The causes are similar to those producing nervous fever.

Symptoms.—The stomach is affected, the patient is listless, but the loss of strength is not so great. For the first four or five days the tongue keeps moist, and the thirst is not so much; but at length the tongue becomes dry, as in nervous fever; the urine keeps its natural color, but deposits a sediment, sometimes a mucus.

Treatment.—At first treat as for acute; clear the stomach and bowels, and give the medicines there directed; then, after a week or rather more has passed, and the acute fever seems subdued, then treat as for nervous fever.

TYPHUS FEVER.

Typhus Fever is a kind of continued fever, characterized by the ordinary symptoms of other fevers, accompanied with debility in the nervous and vascular systems, and a tendency in the fluids to putrefaction.

Causes.—Any of the ordinary causes of fever may give rise to typhus, but by far the most common cause of typhus is contagion, or febrile miasm, the activity of which is much increased by the crowding in close and ill-ventilated places, filth, insufficient nutri-

ment, and other causes tending to depress the vital power. It is eminently contagious and infectious, and often prevails epidemically.

Symptoms.—The symptoms are great prostration of strength, heat intense, pungent, and more biting than in any other fever; pulse hard, small, weak, and irregular; nausea, vomiting, sometimes a greenish or blackish colored bile, countenance flushed, tongue parched and black furred, and thirst is excessive. In the worst cases black or purple spots appear, the urine is but little changed, and there is a peculiar fœtid smell, in cases of true typhus; and sometimes there are discharges of blood. The duration of this fever is uncertain: sometimes it terminates between the seventh and fourteenth day, and sometimes it is prolonged five or six weeks. Its duration depends greatly upon the constitution of the patient, and the manner of treating the disease. The most favorable symptoms are a gentle looseness, after the fourth or fifth day, with a warm sweat. These will continue some time, and carry off the fever. Hot scabby eruptions about the mouth and nose are good signs, as are also abscesses.

The unfavorable symptoms are excessive looseness, with a hard swelled belly, black or livid blotches breaking out, sore mouth, cold clammy sweats, change of voice, inability to put out the tongue, a constant inclination to uncover the breast, difficulty of swallowing, sweat, and spittle tinged with blood, and the urine black, or depositing a black sediment, shows great danger.

Treatment.—In the early stages of this disease it is best not to interfere much with nature's operations. The principal aim ought to be to keep the patient alive until the fever-poison has expended itself. When seen early, however, it is often of advantage to administer an emetic or a purgative; and the patient's uneasy sensations will be much soothed by sponging the surface of the body with cold or tepid water. Directly the powers of life begin to fail, a stimulating course of treatment should be commenced,—such as strong beef or chicken tea, with wine or brandy frequently administered, taking care that it does not aggravate the febrile symptoms. When there is much general irritability and sleeplessness, a dose of opium may be given. The patient should be in a large, well-aired apartment, and the windows kept open as much as possible. As the patient begins to recover, a course of tonics will be necessary to expedite his restoration to health.

TYPHOID FEVER.

Typhoid fever resembles in its main features that of typhus; and until very recently the two were generally regarded as but two stages of the same affection.

Symptoms.—Typhoid fever usually commences more insidiously and more gradually than typhus. The sufferer is less dull and stupid, but more anxious, and during the delirium decidedly more active, and even vivacious. Diarrhœa is almost always present in typhoid fever (often accompanied with hæmorrhage), very rarely in typhus. In the former the eruption consists of rose-colored spots, thinly scattered, and often entirely absent. Typhoid fever is most common in youth, and rarely attacks persons after forty, while typhus may occur at any age; and the former does not reach its height for a week later than the latter.

Treatment.—In general the treatment required in both cases is alike, except in one or two particulars. At the commencement of typhoid, emetics are of service; but aperients should rarely be given, in consequence of the tendency to diarrhœa. The intestinal irritation and diarrhœa require for their treatment astringents, combined with opium, which may be administered either by the mouth or rectum. If there be hæmorrhage from the bowels, cold ought to be applied carefully over the abdomen. During convalescence, the patient requires to be carefully attended to, as relapses are apt to occur; and the return to a generous diet must be very gradual.

YELLOW FEVER.

This is a disease of hot climates, a species of typhus, which takes its name from one of its symptoms, but which is not, however, an essential one.

Causes.—Probably a vitiated state of the atmosphere, from putrid exhalations, arising from putrifying vegetable or animal substances in hot, sultry weather. It is an epidemic, and very contagious.

Symptoms.—Costiveness, dull pain in the right side, defect of appetite, flatulence, perverted tastes, heat in the stomach, giddiness or pain in the head; dull, watery, yellow eye; dim or imperfect vision, hoarseness, slight sore throat, and the worst features of typhus.

Treatment.—It is advisable to clear the stomach by the following purgative:—

Compound Extract of Colocynth, ...1 drachm.
Compound Rhubarb Pill, ...1 drachm.
Socotrine Aloes, ...1½ drachms.
Calomel, ...1 scruple.
Oil of Caraway, ...10 drops.
Syrup of Ginger, sufficient quantity.

Mix, and divide into forty-eight pills. Take two or three at bed-time. Then use pills made as follows:—

Calomel, ...1 scruple.
Powdered Opium, ...1 scruple.
James's Powder, ...1 scruple.
Conserve ot Hips, sufficient quantity.

Mix, and divide into twenty pills. One to be taken every two or three hours till the disease abates. When the fever and inflammatory action are gone, use the following tonic antiseptic draught:—

Tincture of Calumba, ... 1 ounce.
Tincture of Peruvian Bark, ... 1 ounce.
Infusion of Augustura Bark, ...10 ounces.

Mix. Take two table-spoonfuls three times a day, with twenty-four drops of dilute sulphuric acid in each dose. If much irritability of the stomach exists, a blister may be of service, and washing with cold water is often refreshing to the patient. Favorable symptoms are—settled stomach, little pain in the head, lively eyes, free perspiration, copious high-colored urine, an eruption on the skin, and sound sleep

Herbal, or Eclectic Treatment for Yellow Fever.

In this disease, good nursing is indispensable. Let the patient have perfect rest and quietness, in a well-ventilated room. In the early stages of the disease, the diet must be confined to preparations of sago, arrow-root, barley, &c.; but as the disease advances, give animal broths made of lean meat, thickened with bread-crumbs, oat-meal, or barley. The strictest attention must be given to cleanliness, and the linen changed frequently. If the stomach be very irritable and the vomiting violent, give the following preparation:—

Powdered Rhubarb,	20 grains.
Powdered Saleratus,	20 grains.
Powdered Peppermint,	1 teaspoonful.
Laudanum,	15 drops.
Brandy,	1 tablespoonful.
Boiling Water,	1 gill.

Mix. Sweeten with loaf-sugar, and give a table-spoonful every hour till the symptoms change. The bowels must be kept open, as in all fevers. For this purpose use the following:—

Ginger,	2 ounces.
Bayberry Bark,	4 ounces.
Cayenne Pepper,	½ ounce.

Dose, a teaspoonful in a little milk, with half a teaspoonful of powdered rhubarb every hour till it operates freely. Strong boneset or thoroughwort tea, taken in quantities as much as the stomach will stand, is very useful.

Captain Jonas P. Levy, who has had an extensive experience with yellow fever, states that he never knew a case of yellow fever terminate fatally, under the following treatment:—

Dissolve a table-spoonful of common salt in a wineglass of water; pour it into a tumbler, and add the juice of a whole lemon and two wineglasses of castor-oil. An adult to take the whole at one dose. Then give a hot mustard foot-bath, with a handful of salt in the water. Wrap the patient in blankets until he perspires freely. Remove to the bed, and well wrap the patient's feet in the blanket. Afterward apply mustard plasters to the abdomen, legs, and soles of the feet. If the headache is very severe, they may be applied to the head and temples. After the fever has been broken, take forty grains of quinine and forty drops of elixir of vitriol to a quart of water. Give a wineglassful three times a day. Barley-water, lemonade, and ice-water may be used in moderation.

GANGRENE (*Mortification*).

Gangrene is the first stage of mortification, so called from its eating away the flesh. Gangrene may be considered as a partial death—the death of one part of the body while the other parts are alive.

Causes.—The causes are excessive inflammation, sometimes from hurts or injuries.

Symptoms.—All pain and sensation ceases in the part; and, if extensive, it turns from red to purple, livid, or black, with a quick low pulse and clammy sweats. If internal, there is a cessation of pain, but the body sinks and changes to a livid color, and often hiccups and other distressing symptoms attend. The face is pinched with cold, and the tongue brown.

Treatment.—When the result of cold, the part becomes first white, and a restoration of the suspended circulation should be attempted by rubbing with Snow, if it can be procured; if not, with a coarse cloth or flesh brush. No heat must be applied; even that of the bed-covering will sometimes set up inflammation. Camphorated Spirit of Wine is, perhaps, the best liniment that can be used. After the rubbing, if it appears to be at all effectual, apply cold poultices. If, in spite of these efforts, a discoloration of the skin shows that Gangrene has really commenced, apply to the part a poultice of flax seed with a little powdered charcoal in it, and also Spirit lotions, to keep the disease from spreading. The constitution of the patient must be soothed and supported by some anodyne and stimulent. Cooper recommends from 7 to 10 grains of Carbonate of Ammonia, with 20 or 30 drops of Tincture of Opium, two or three times a day, or more frequently if required. A bolus composed of 5 grains of Carbonate of Ammonia, with 10 grains of Musk, may be given every four hours, with excellent effect. When the Gangrene has proceeded to a sloughing sore, a Port Wine poultice is a good application, as is Spirits of Turpentine, to stimulate the parts.

If, however, the Gangrene is not stopped in its first stages, it can seldom be after; and the only chance of saving the patient's life is to amputate the limb; and this must be done before the morbific influence has spread far towards a vital part.

HOSPITAL GANGRENE

Is a combination of Humid Gangrene with Phagedenic Ulceration, sometimes occurring in crowded hospitals, and causing a fearful mortality among the patients.

GLANDULAR SWELLINGS.

Weak and scrofulous persons are frequently troubled with these swellings. They often occur in the neck, and under the arm, as well as elsewhere.

Treatment.—Stimulent applications, and a general tonic course of treatment should be resorted to in such cases. Salt water bathing, and drinking mineral waters, are among the most efficacious remedies. If these cannot be obtained, let the patient take a mixture like this:—Sulphate of Iron, 12 grains; Sulphuric Acid (diluted), 1 drachm; Sulphate of Quinine, 24 grains; Tincture of Ginger, 2 drachms; Distilled Water, sufficient for 12 ounces. Take a tablespoonful three times a day, with good nourishing food. If the bowels are at all confined, add to the mixture 6 drachms of Sulphate of Magnesia. Paint the swollen part with Tincture of Iodine every night.

GLANDERS (*Farcy*).

This is a malignant disease occurring in the horse, the ass, and the mule, which man is liable to contract, by inoculation, or by simple contact with the skin. It is a horrible and loathsome disease, and very commonly proves fatal. An animal affected by it should at once be killed, and the body buried.

Symptoms.—The chief symptom of its presence in the animal is inflammation of the lining membrane of the nostril, which becomes ulcerated, and emits a bloody, fœtid, sticky, yellowish discharge. Shortly after the person contracts the disease there will be febrile symptoms, probably vomiting and diarrhœa; small ulcerating tumors will form under the skin in various parts of the body, and the peculiar viscid discharge from the nostrils, which is the characteristic of the disease, will commence. No domestic treatment will be of service here. A physician should at once be consulted.

GOUT.

This is a disease of the blood, arising from a super-abundance of acid therein; the pains generally attack the small joints, arising without any apparent external cause, but is preceded generally by an unusual affection of the stomach, infecting the articulations of the feet and hands, particularly the great toe, and the less inclined to shift, yet alternating with affections of the stomach or other internal parts.

Causes.—Hereditary, pre-disposition, a peculiar saline acrimony of the blood, good living, and a sedentary life, intemperance of every kind, late hours, intense application to study, much grief or

anxiety of mind, exposure to cold, more particularly by getting wet in the feet, and too free use of acidulated liquors; it is mostly a disease of the wealthy.

Symptoms.—A paroxysm of regular gout, sometimes comes on without warning; at other times it is preceded by a sense of pricking, about the lower extremities, coldness and numbness of the feet and legs; the appetite fails, the stomach uneasy, the body costive, the urine pallid, sometimes slight pains in passing it. On the night of the attack the patient is awakened by the severity of the pain, which has affected the joint of the great toe, the heel, calf of the leg, or perhaps the whole foot. This pain is accompanied with a sensation as if cold water was poured on the part, which is succeeded by a shivering, with some degree of fever. Afterwards the pain increases, and fixing among the small bones of the foot, the patient feels all the different kinds of torture, as if the part were stretched, burnt, squeezed, gnawed, or torn in pieces, &c. The patient is always worse toward night and easier toward morning; the paroxysm mostly grows milder every day, until at length the disease is carried off by perspiration, urine, and other evacuations.

Treatment.—The patient ought to be kept quiet and easy; the diet should be nourishing, without being stimulating,—broths, puddings, jellies, light meats, &c., are therefore proper; but spirits or wine must be carefully avoided, as well as salt meats and all high seasoned food. The patient should retire to rest early. Take on the first day half an ounce of castor-oil; on the second day one drachm of tincture of hops in two ounces of the infusion of cascarilla, morning and night. The following has been found very useful: Rhubarb, guaicum gum, nitrate of potass, flowers of sulphur, of each one ounce; molasses, one pound. Mix well together; take from one to two teaspoonfuls (according to its aperient effects) every night, with a little warm gin and water. As a preventive, the following is highly recommended: Infusion of gentian one and a half ounces; bicarbonate of potash, fifteen grains; tincture of rhubarb, one drachm. Mix; to be taken at bedtime.

HIP-JOINT DISEASE.

This generally occurs in children of a scrofulous habit. It prevails in cold moist climates, and attacks chiefly children between the ages of seven and fourteen, though it is not unfrequently met with both before and after that time of life.

Symptoms.—The first symptom complained of is generally pain in the knee. Sooner or later, the patient is observed to walk awkwardly and less vigorously than usual, caused by the affected limb being elongated and emaciated. Pain is felt in the hip-joint itself, and though aggravated by motion, often becomes more severe from time to time, without any such cause of irritation. Collections of matter make their appearance, most frequently in the outer wall of the hip, but occasionally in the groin and hip. The patient, after a tedious illness, becomes hectic and dies, or recovers with a stiff joint, and wasted useless limb.

Treatment.—As this disease is generally pretty far advanced before it is discovered, but little can be done for it in the way of domestic treatment. A surgeon should be consulted. As a general rule, counter-irritants in the first stages, such as blisters and setons, with a leech or two, if the swelling and inflammation accompanied with pain, is great. Afterwards the same treatment as that prescribed under the head *Abscesses.*

INTOXICATION.

Intoxication is the state produced by the excessive use of alcoholic liquids or inebriating substances.

Treatment.—Administer a teaspoonful of spirits of hartshorn in a wineglassful of water, or give a wineglassful of camphor mixture. When a person is found insensible from the effects of intoxication, he should be conveyed into a cool room and placed between blankets, with his head considerably raised, but the legs should hang down, and the feet be bathed in warm water. The clothes should be loosened, and barley-water or rice-water be given freely, though in small portions. Next, a gentle emetic is to be introduced, and the throat stimulated with a feather dipped in oil. After this the patient will probably fall into a sound sleep, and awaken some hours afterwards, partially if not wholly recovered. When the pulse and the breathing continue, and the body is hot, cloths dipped in cold water and applied to the head, neck, stomach, and breast, will frequently be of great service in restoring intoxicated persons to life and sensibility.

LEPROSY.

Leprosy is an eruption on various parts of the body of raised circular patches covered with white scales of the outer skin. These

patches are surrounded by a reddish ring. The patches themselves are generally of a ring-like form, the centre being apparently healthy skin. The patches begin in the form of small smooth spots, and often enlarge considerably. When the scales are rolled off, they leave a dull red surface, on which the scales are speedily reproduced. Leprosy commonly commences at the knee, thigh, elbow, or forearm, and will, if not checked, often extend over the whole body.

Treatment.—Take of Fowler's arsenical solution five drops, in a wineglassful of water three times a day. The dose to be gradually increased to eight or ten drops. Rub into the spots every night an ointment formed of native orpiment, three grains; lard, one drachm. Or, take of compound tincture of bark, half an ounce; solution of potash, one drachm; peppermint-water, six ounces; take two tablespoonfuls three times a day. Also, apply externally, every morning and night, the following lotion: Borax, two drachms; honey, two ounces; water, six ounces. Mix.

LICE.

These disgusting vermin most commonly appear when cleanliness is neglected, and especially in cases where the body-clothing and bed-clothing are used continuously without change. But there appear to be certain habits of body, and certain seasons of the year, which are favorable to the generation of this kind of vermin,—as, for instance, spring and autumn, and also during the prevalence of east winds.

Treatment.—Wash the body well with vinegar and water, and afterwards rub in a lotion made as follows: Camphor, grated, half an ounce; best white-wine vinegar, one pint; water, one pint. Mix, and apply night and morning. Or, take equal parts of garlic and mustard, moisten with vinegar, and rub into the skin twice a day. For lice in the head, pound parsley-seed to a fine powder, and rub it well into the roots of the hair. Persons who are liable to this visitation should, at the spring and fall of the year, take every morning, for a fortnight or three weeks, a teaspoonful of flowers of sulphur in a little warm wilk. This serves to purify the blood, and correct the tissues.

LUMBAGO.

Lumbago is a rheumatic affection of the muscles of the loins. When the pain attacks the hip-joint it is termed *sciatica*. It is indi-

cated by stiffness and pain, and the pain is aggravated by stooping, sitting, or rising to the upright posture. It is most generally caused by exposure to wet or cold.

Treatment.—Nothing affords greater relief than hot moist applications to the back, continued from twelve to twenty-four hours at a time, and followed by the rubbing well into the back and loins of soap liniment, combined with one-sixth part of turpentine. Take also at bedtime ten grains of Dover's powder, with two grains of calomel; and, on the following morning, half an ounce of castor-oil. Take also twice a day ten grains of carbonate of potass, with one teaspoonful of sweet nitre, in a wineglassful of water. The following treatment has been highly recommended: Take every other morning a warm bath at ninety-six degrees; take also of the ammoniated tincture of guaiacum, fifty drops in milk and water three times a day; rub into the parts affected—morning, noon, and night—the following liniment: spirit of hartshorn, one ounce; olive-oil, two ounces; shake them together till they thoroughly unite. Every other evening, take one or two of the aperient pills as follows: socotrine of aloes, thirty-six grains; rub it well with eighteen grains of gum-mastic; and add of compound extract of gentian, and compound galbanum pill, of each twenty-four grains; oil of aniseed, a sufficient quantity to make twenty pills. Should the pain be urgent, one of the best and most efficacious remedies for its relief is the compound powder of ipecacuanha and camphor, three or four grains of each of which made into two pills, may be taken occasionally. This will not interfere with the effects of any other medicine.

In very severe and obstinate cases of lumbago a cure can only be effected by mechanical means. This is effected by an instrument termed the "Thermal hammer." As this instrument can be used by any non-professional person, and may be made by any blacksmith, we will give a description of it. Into an ordinary wooden handle there is inserted an iron rod about four and a half inches long, slightly bent at the end, and terminating with a disc, or round face, half an inch in diameter and a quarter of an inch thick. When this instrument is used, it is grasped so that the forefinger may rest upon the bend near the disc. The disc itself is then to be introduced into the flame of a spirit-lamp, or of a piece of burning paper, and held till the metal beneath the forefinger becomes uncomfortably hot; the handle is then to be grasped, and the disc applied lightly and momentarily, and at short intervals, to the skin, over the part

affected. Each touch of the disc produces a shining mark on the skin, and very shortly the whole surface becomes reddened and slightly inflamed. The application of this instrument is on the principle known in medical practice as "counter-irritation," and heat thus being applied to heat, the excited action going on within the body is counteracted or withdrawn.

LOW SPIRITS.

This is a state of mind generally associated with dyspepsia, in which all kind of imaginary evils are conjured up, and the slightest pain or unusual feeling, is looked upon as the precursor of some dreadful malady. Persons so affected always fancy themselves on the verge of danger, and are fearful and irresolute in everything.

Causes.—The causes are various. It may arise from intense study, some great stroke of affliction, indolence and inactivity, or excessive indulgence in venereal or other excesses, or deranged digestion.

Treatment.—Change of scene, cheerful society, engaging the mind in some art or pursuit, which, although not too laborious, requires the use of the mental powers; exercise, tepid and shower baths, are among the remedial measures in this case. The bodily health must be carefully watched and preserved.

NIGHTMARE (*Incubus*).

This is a distressing sensation experienced during sleep, and usually accompanied by frightful dreams.

Causes.—A heavy supper just before going to bed; dyspepsia, mental irritation, great fatigue, lying in an uneasy position, may occasion it, as also the use of narcotic and intoxicating substances.

Treatment.—Carefully shun all kinds of food likely to prove flatulent or of difficult digestion. Hot and heavy suppers are particularly injurious, as also are acids. Excess of sedentary employment should also be avoided. Take the following:—

Carbonate of Soda,	10 grains.
Compound Tincture of Cardamoms,	3 drachms.
Simple Syrup,	1 drachm.
Peppermint-Water,	1 ounce.

Mix, for a draught, to be taken at bedtime. Or take, on going to bed, a teaspoonful of sal-volatile in a wineglassful of cold water.

PAINS IN THE BACK.

Pains in the back are of many kinds, and may result from a variety of causes.

Treatment.—If weakness be the cause, cold bathing, the shower bath, and squeezing a sponge repeatedly down the back, together with vigorous rubbing with a rough towel, will be found efficacious. Rest, in a recumbent or semi-recumbent position, will also alleviate the pain and contribute to its removal.

PAINS IN THE SIDE.

Causes.—Pains in the side may arise from a rheumatic affection, or from derangement of the stomach. If the pains be situated high up in the region of the chest, they may be occasioned by inflammatory affection of the lungs, but in this case will be accompanied with more or less fever, and other symptoms indicative of the disorder. Pain on the right side, lower down, may be owing to an affection of the liver; on the left side, to affection of the pain on the left side. It, however, often occurs as a sympathetic affection, sometimes of the heart or lungs, in either sex. It is common in females at times of functional disorder.

Treatment.—Regulate the state of the bowels by mild aperients; and, if the system seems impoverished, and there has been much debility of the digestive organs, take twenty grains of the sequioxide of iron twice or thrice a day. Employ the warm bath frequently, and apply to the part affected a muslin bag filled with hops and well soaked in hot water; also, rub in every fourth hour the following: Tincture of aconite, half an ounce; soap liniment, one and a half ounces. Mix.

Obstinate and increasing pain of the side, which will not go away with the treatment above indicated, must on no account be neglected. There is evidently something radically wrong in the system, and the advice of a medical man must be taken.

RHEUMATISM.

The characteristic signs of this complaint are pains in the large articulations, following the tree or course of the muscles, and which are increased by external heat, together with fever. There are two kinds—*acute* and *chronic*.

Causes.—Obstructed perspiration, occasioned by wearing wet clothes, sleeping on the ground, or in damp rooms, or by being exposed to cold air when the body is much heated, and the like.

Symptoms.—In the *acute*, or what is called *rheumatic fever*, it usually comes on with lassitude and the rigors, succeeded by heat, thirst, anxiety, restlessness, and a hard, full, quick pulse, the tongue preserving a steady whiteness. After a short time excruciating pains are felt, more especially in the shoulders, wrists, knees, and hips; and these pains are shifting from one joint to another, leaving a redness and swelling in every part they have occupied, as also great tenderness to the touch. Towards evening there is usually an increase of fever, and during the night the pains become more severe.

Chronic Rheumatism is attended with pains in the head, shoulders, knees, and other large joints, without any fever or inflammation. The complaint is either confined to a particular part or shifts about. It continues some time and then goes off, leaving the part in a debilitated state, and is very liable to fresh attacks on the approach of moist or damp weather.

Treatment.—Every symptom of this form of rheumatism proves it to be a disease of debility, consequently the mode of treatment must be founded upon this idea. Hence, stimulants of almost all kinds prove serviceable, together with tonics, warm bathing, &c. Let the patient be clothed in flannel next the skin, and take an aperient pill every night and morning. Also, take thirty drops of the wine of the seeds of colchicum in camphor julep three times a day. Or, take of flowers of sulphur and mustard, of each half an ounce; honey or molasses, a sufficient quantity to form a paste. Take a piece of the size of a nutmeg several times a day, drinking after it a quarter pint of the decoction of lovage-root. The following have also been very beneficial: Guaiacum in powder, and soap, of each one drachm; essential oil of juniper-berry, four drops; mix, and divide into twenty-eight pills, two to be taken four times a day. Or the following:—

Spirit of Mindererus,	1 ounce.
Cinnamon-Water,	½ ounce.
Laudanum,	15 drops.
Antimonial Wine,	25 drops.
Syrup of Poppies,	2 drachms.

Mix for a draught.

In *Acute Rheumatism* confine the patient in bed, and give half-grain doses of calomel and opium every four hours, and half ounce of castor-oil every other night. Or, keep the bowels open by means of gentle laxatives, administered occasionally throughout the course of the disease. Leeches may be applied to the inflamed joints; and, to assist their action, take the following mixture:—

Tartar Emetic,.....2 grains.
Tincture of Henbane,.....2 drachms.
Water,.....6 ounces.

Mix. The whole to be taken in the course of the day, one or two table-spoonfuls at a time. The quantity of tartar emetic should be increased or diminished according to the effect produced on the stomach. This remedy, if carefully and perseveringly administered, will produce the most beneficial results.

Herbal, or Eclectic Treatment for Rheumatism.

Inflammatory rheumatism may be treated much like an acute fever. If young and strong, bleeding should be resorted to; and, to an adult, the following purgative: Calomel, fifteen grains; jalap, twenty grains. Mix them well together, in sugar and water or syrup; after which take some gruel or warm balm, sage, or dittany tea, to produce a gentle perspiration. A tepid bath may then be taken, care being used that cold be not taken. Take for a few nights one drachm of cream of tartar, and a half drachm of gum guaiacum in powder, in a cup of wine whey.

For Chronic Rheumatism.—Take a little powdered Indian turnip once or twice a day, in honey or sugar and water. Mustard or horse-radish should be taken with the food, and the body be encased in flannel and the flesh-brush frequently used. Where there is much weakness, from the long continuance of the disease, tonic medicines must be used. Dogwood bark, wild-cherry bark, and poplar bark, in equal quantities, made into a tea, and a wineglassful taken three times a day, is very good; as is also eight or ten drops of elixir of vitriol, taken three or four times a day in a wineglassful of water.

SCIATICA.

This is a painful rheumatic affection, confined to the hip-joint and lower extremities, and affecting the large nerve (called the sciatic nerve) of the leg.

Treatment.—Apply a small blister on the spine at the bottom of the loins, and when it is removed sprinkle the surface with one-third of a grain of acetate of morphia, mixed in a little starch-powder. Or, apply to the part affected a bran poultice, to be followed twice or three times a day by an embrocation composed of one part of turpentine, and two parts of soap and opium liniment. A couple of drachms of this should be rubbed in for ten minutes at a time. Meanwhile, cleanse the bowels by a purgative, and if there is no tendency to fever, take drachm doses of carbonate of iron, three times in twenty-four hours. When the pain is very severe, accompanied with general fever, leeches should be applied, and cooling purgatives taken. It will also be advisable to employ the hot bath at a temperature of 105 degrees, and to remain in it from fifteen to twenty-five minutes. This should be repeated two or three times a week.

SCROFULA (*King's Evil*).

This disease consists in hard indolent tumors on some of the glands on the various parts of the body, but particularly on the neck, behind the ears, and under the chin, which after a time suppurate, and degenerate into ulcers, from which, instead of pus, a white curdled matter is generally discharged.

Causes.—It may proceed from a hereditary taint, infection from a scrofulous nurse; children born of sickly parents, whose constitutions have been injured by secret diseases, are very likely to be afflicted with this complaint. It may likewise proceed from whatever tends to vitiate the humors and relax the solids, and very slight causes will produce it in those predisposed to it; such as blows, bruises, want of proper exercise, too much heat or cold, confined impure air, unwholesome food, bad water, the long use of poor weak watery aliments, and neglect of cleanliness; and nothing tends more to induce this disease in children than allowing them to continue long wet.

Symptoms.—At first small knots appear under the chin or behind the ears, which gradually increase in number and size, till they form one large hard tumor. This often continues a long time without breaking, until at length the skin covering the tumor acquires a purple or livid color, and being much inflamed they suppurate and break into little holes, from which a watery matter at first discharges; but this changes by degrees, until it becomes a viscid, serous

discharge, much intermixed with small pieces of white substance resembling the curd of milk. Other parts of the body are also liable to its attacks, as arm-pits, groins, feet, hands, eyes, breast, &c. Nor are the internal parts exempt from it. It often affects the lungs, liver, or spleen, and frequently the glands of the mesentery are greatly enlarged by it. In some cases the joints become affected: they swell, and are incommoded with deep-seated excruciating pains, which are much increased upon the slightest motion. The swelling and pain continue to increase; the muscles of the limbs become at length much wasted; matter is soon afterwards formed, and is discharged by small openings bursting in the skin, being of an acrimonious nature; it corrodes the ligaments and cartilages, producing a caries or rotting of the neighboring bones. By absorption into the system of the matter, hectic fever at last arises, and consumption comes to end the sufferer's life.

Treatment.—The body should be regularly submitted to cold or tepid bathing, in order to promote the healthy functions of the skin. The diet must be carefully regulated, consisting chiefly of animal food, taken at certain intervals. For children, a very nourishing food may be prepared by boiling a small bag filled with suet in cow's milk. It bears a strong resemblance to goat's milk, but has the advantage of being more astringent. A pure, dry, and temperate atmosphere is the best to live in; and, during the summer months and the early autumn, much advantage may be derived from sea-air, combined with sea-bathing. All persons of scrofulous tendency should wear flannel continuously next their skin, it being the best protector of the body from the bad influence of our variable climate. A great variety of drugs have been employed in the treatment of scrofula, but they are all of secondary importance in comparison with the means above recommended. We give some of the most approved remedies for this disease:—

Iodine, ... 1 grain.
Iodide of Potash, ... 2 grains.
Distilled Water, ... 8 ounces.

Mix. To a child under seven years of age a dessert-spoonful of this mixture is to be given three times a day, in half a teacupful of water, sweetened with a little sugar. The dose to be gradually increased to two table-spoonfuls; and the remedy is to be continued, if no unfavorable symptoms occur, for a period of four or five weeks;

its use is then to be suspended, and gentle laxatives are to be administered. After an interval of a fortnight, the mixture is to be again administered, commencing with a dessert-spoonful, and gradually augmenting the dose as before. At the expiration of a month, the remedy is again to be discontinued, and again renewed. In this manner, the means of cure may be employed with perfect safety, and continued until the desired end is accomplished. Or, if preferred, the following:—

Gum Guaiacum, ... ½ ounce.
Iron Filings, ... ½ drachm.
White Sugar, ... ½ ounce.

Mix. Of this powder a pinch, larger or smaller, according to the age of the child, is to be given twice a day, and continued for a considerable length of time. If symptoms of fever show themselves, the remedy is to be discontinued for a time. Meanwhile, a tepid bath should be taken three times a week, and the diet confined chiefly to broth and milk. Or the following:—

Take a table-spoonful of cod-liver oil three times a day, and with it, when the glands are swelling, two grains of iodide of potassium, three times a day, in infusion of orange-peel. Also, paint the scrofulous swellings lightly with tincture of iodine. When the glands have broken, stop the iodide. Then give twelve drops of solution of potash three times a day; and, after cleansing the sores with poultices, dress them with oxide of zinc ointment.

Herbal, or Eclectic Treatment for Scrofula.

Generally, we believe, nutritious food, pure air, great personal cleanliness, and gentle exercise, will be the best medicines for this distressing complaint. As soon as the swelling shows itself, apply a poultice, cold, of Indian turnip and slippery elm. Continue this till the swelling subsides or breaks, then use a poultice made of yellow or narrow dock-root and slippery elm. After a few days, change with a poultice made of equal parts of slippery elm, pulverized bayberry bark, and crackers.

An eminent physician has recommended the use of Peruvian bark and steel, to be taken alternately every two weeks. Also, the muriate of lime in doses of ten and increasing to sixty drops three or four times a day, in tea or water. Much benefit has been derived from taking pills made of tar. Take common tar, boil it down hard

enough to make into pills, and take four every day. These also have been found very useful:—

Gather the leaves of coltsfoot, when at their full growth; dry them, and infuse them in the same manner as tea; drink this beverage freely, instead of the beverage ordinarily drank.

Take every second day a few grains of rhubarb, drink freely of goat's whey, and apply to the scrofulous sore the following ointment lightly spread on lint: White ointment, one ounce; levigated chalk, ten grains; red precipitate powder, half a drachm. Mix. Salt water bathing is very useful.

SCURVY.

This complaint shows itself by a bleeding of the gums, and spots of different colors, on various parts of the body and limbs, on the skin, and the colors are, for the most part, purple or livid.

Causes.—Indolence, confinement, want of exercise, neglect of cleanliness, sadness, salt or putrified food, and foul water, or the prevalence of cold and moisture. It is sometimes produced by overfatigue. In some persons it is constitutional, or hereditary.

Symptoms.—The scurvy comes on gradually, with heaviness, weariness, depression of the spirits, anxiety, and considerable debility. In the progress of the disease the countenance becomes sallow and bloated, and the respiration hurried; the teeth become loose, and the gums spongy and swollen, and bleed on the slightest touch; the breath is offensive, and livid spots appear on various parts of the body; severe wandering pains are felt, especially at night. The urine is scanty, and the pulse small and frequent; sometimes a scaly appearance of the skin; and the joints at last become swollen and stiff.

Treatment.—Nutritious and fresh animal food; rice, tapioca, and sago, together with acid fruits and drinks; lemon-juice, in table-spoonful doses three times a day. Or the following:—

Purified Nitre (saltpetre)..... .....2 ounces.
Best White-Wine Vinegar,.....1 quart.

Mix. When dissolved, take a table-spoonful four times a day. If the gums are very bad, use to wash the mouth out frequently—decoction of black-currant leaves, one pint; muriatic acid, one drachm. Mix, and gargle the mouth four times a day.

The following is very good: Take a dose of castor-oil, with ten drops of cream of tartar. If there be much pain and uneasiness, take at night twelve grains of Dover's powder; afterwards the following tonic:—

Decoction of Bark,	6 ounces.
Syrup of Orange-Peel,	1 ounce.
Compound Tincture of Bark,	1 ounce.
Carbonate of Ammonia,	½ drachm.

Mix, and take a sixth part twice or three times a day. Use a carrot poultice if ulcers appear on the legs, and dust the sores with carbonate of iron; or use this lotion—equal parts of tincture of myrrh and tincture of Peruvian bark, and wash twice a day. Avoid salt provisions and stimulants. When the scurvy is removed, treat as for indigestion.

Herbal, or Eclectic Treatment for Scurvy.

The treatment of scurvy is not difficult. Attention to the stomach and bowels, pure air, cleanliness, and gentle exercise are the chief requisites for recovery. The following has proved very useful: Put into a stone jar a half pound of the root of the great water-dock, cut into thin slices, and pour upon it one gallon of boiling water. Cover up and let it stand for twenty-four hours; then put the whole into a saucepan, and boil for ten minutes. Let it stand till cold, and strain off without squeezing. Dose, a half pint twice a day.

The diet should be light and nutritious. Take plenty of acids and vegetables, with as much horseradish, mustard, cresses, &c., as wanted; also, eat abundance of fruit.

STIFFNESS OF JOINTS (*Anchylosis*).

This may be caused by the introduction of the lava of an insect, or from a violent blow or fall, either of which will often bring on an inflammatory action, with an exudation and deposit of gritty matter, which settles between the bones forming the joints, and thus prevents their free movement.

Treatment.—Take a vessel sufficiently deep to admit of the immersion of the leg up to above the knee. Nearly fill it with water of the temperature of ninety-eight degrees, and pour in a strong decoction of elder-flowers and tar. Take this bath night and morning; and

apply to the affected part, three timee a day, compresses saturated with the following lotion:—

Liquor of Ammonia,	2½ ounces.
Camphorated Alcohol,	3 drachms.
Bay Salt,	1¼ ounces.
Water,	1 quart.

Mix. The compresses should remain on for ten minutes at a time. Afterwards apply a plaster made as follows: Lard, ten ounces; yellow wax, three ounces. Mix these over the fire, with just sufficient hot water to form a mass; and add grated camphor, three ounces. Remove from the fire, and let it cool. When sufficiently congealed, spread it with the blade of a knife or the handle of a spoon, upon a piece of linen of the size required; and cover the whole with oilskin. Or, bathe the part night and morning with warm salt and water; rub well in, two or three times a day, almond-oil; and, at the same time, endeavor by gentle movement to loosen the joint.

ULCERS.

These generally proceed from some external injury, such as a wound or a bruise; or they arise in consequence of inflammation or some other disease. There are several sorts, as healthy, irritable, indolent, inflamed, sloughing or gangrenous, and sinuous.

Causes.—Wounds, injuries, bruises, inflammations, abscesses, or the suppression of some accustomed evacuations.

Symptoms.—A running sore, with acrid humors; hardness of the edges round the sore, and difficulty of healing.

Treatment.—In the *healthy*, which secrete good matter, and look to be healing, though but slowly, poultice with white bread or linseed poultice, a day or two; then dress with the following:—

Olive-Oil,	16 ounces.
Yellow Wax,	1 pound.
Yellow Resin,	1 pound.
Burgundy Pitch,	1 pound.
Venice Turpentine,	3 ounces.

Melt the wax, resin, and pitch together with the oil, over a slow fire. When mixed, take off the fire, and put in the turpentine; stir well, and strain whilst hot through a coarse cloth.

In the *irritable*, which are very sore and spread, use the same fomentation as prescribed for rupture; take a cooling purgative, and use the following wash:—

Nitric, or muriatic acid, fifty drops; water, one quart. Mix, and wash the sore with this two or three times a day, and poultice a day or two with linseed whilst using it. Then dress with the following salve:—

Venice Turpentine,	1 ounce.
Frankincense,	1 ounce.
Beeswax,	1 ounce.
Linseed-Oil,	1 ounce.
Black Rosin,	1 ounce.
Black Pitch,	2 ounces.

Melt together; when cold enough, add fresh butter (without salt) or lard, sufficient to make it soft enough to dress with; apply twice a day. When it begins to look healthy, dress with the yellow-wax ointment, as before recommended.

The *indolent* ulcers are often on the legs, and require a similar treatment as the above. Persons suffering from bad and ulcerated legs, will find advantage in wearing elastic stockings.

ULCERATION OF THE BONES (*Caries*).

This is a disease of the bones analogous to ulceration of the soft parts. It most frequently attacks the bones of the spine; but it may affect any of the bones, especially such as are of a spongy texture.

Causes.—The young, or those of a scrofulous habit of body, are most subject to this disease. It sometimes appears spontaneously; at others, as the result of an injury, as a blow or fall.

Symptoms.—It begins with inflammation, usually attended with a dull, heavy pain, and weakness in the part affected. In course of time an abscess forms, which, if not arrested, at length bursts and discharges a thin fluid containing particles of the bone. In caries of the vertebræ, curvature of the spine takes place.

Treatment.—Much may be done in arresting the progress of this disease in its earlier stages. The patient should be strengthened by good air and nourishing diet, at the same time that rest is enjoined. The state of the stomach and bowels should also be attended to. In the local treatment of the disease, blisters, leeches, and issues

are to be employed. The abscesses are best left to nature, unless they are productive of much uneasiness. When they have burst, the exfoliation of the diseased part should be expedited as much as possible; or, when practicable, the whole of the diseased portion should be removed by a saw or gouge, so that the healthy portions may granulate and heal.

WHITE SWELLING.

This is a disease of one of the larger joints. It is mostly of a slow or chronic character, and occurs chiefly in the knee, although the elbow-joint, hip-joint, and even ankle-joint, are not unfrequently the seat of it.

Causes.—This complaint may result from blows, falls, bruises, cold, fevers, and constitutional disorders.

Treatment.—Early attention to this disease will prevent, in almost every case, its dreadful consequences. When the pain commences in the knee, a blister should be put on, and perfect rest strictly observed. If the pain continue after the blister be healed, not a moment should be lost in putting on a caustic issue. The mere application of caustic has been known to cure the disease, but it is indispensable that the patient should not stand a moment on the limb. Or, in the early stage apply leeches and warm fomentations. If not reduced, put on a plaster made as follows: Reduce to a fine powder two ounces of gum-ammoniac; and then add as much vinegar of squills to it as will form it into a paste, and spread it on a piece of leather and apply.

WASTING (*Emaciation—Atrophy*).

The rapid or gradual reduction of the size of the whole body, or of parts thereof, frequently comes on without any evident cause. It is seldom accompanied by pain, difficulty of breathing, cough, or fever; but is usually attended with loss of appetite and impaired digestion, depression of spirits, and general languor.

Treatment.—This disease is very difficult of cure, and for its treatment we must endeavor to find out the cause, and, if possible, remove it. If occasioned by worms, these must be destroyed by appropriate medicines; if by excess of any kind, this must be wholly discontinued; if from a scrofulous disposition, tonic medicines must be resorted to; and in like manner the treatment will be the same with

that of every other disease which it may either accompany or of which it may be the effect. The diet should be nutritious, generous, and such as is easy of digestion,—milk, calves'-feet jelly, &c. Regular walking exercise should be taken in the open air. The surface of the body should be well rubbed, and change of scene and sea-bathing may be resorted to. Of medicines, cod-liver oil is likely to prove the most effectual.

It often occurs, more particularly in children, that wasting takes place without derangement of any other process than that of nutrition. In these cases a teaspoonful of cod-liver oil two or three times a day may often be followed by very decided and permanent benefit.

WEAKNESS OF THE HAIR.

The falling off of the hair is generally a sign of debility of constitution.

Treatment.—The removal of the bodily weakness, and the general bracing up of the system, is the first step to take. Frequent cutting, and frequent brushing and washing, are the next methods. In addition to this, there may be applied, every morning and evening, a portion of the following lotion:—

Eau-de-Cologne,	2 ounces.
Tincture of Cantharides,	2 drachms.
Oil of Rosemary,	10 drops.
Oil of Lavender,	10 drops.

Mix. We append a number of the most approved remedies for weakness of the hair. Each should have a fair trial, till the right one is found:—

Clean the hair with rum every night on a soft brush; then comb it very gently, and pour cold water on the head every morning, after which thoroughly dry it. A drop or two of sweet-oil twice a week should also be used. Or the following:—

Beef Marrow,	6 ounces.
Nervine Balsam,	2 ounces.
Peruvian Balsam,	2 ounces.
Oil of Almonds,	1½ ounces.
Extract of Cantharides,	16 grains.

Melt the marrow and nervine balsam with the oil; strain, add the balsam of Peru, and lastly the extract, dissolved in a drachm of rec-

tified spirit. Rub on the scalp once or twice a day for some weeks. If any soreness be produced, it should be less frequently applied. Or the following:—

Fresh Lemon-juice,	1 drachm.
Extract of Bark,	2 drachms.
Marrow,	2 ounces.
Tincture of Cantharides,	1 drachm.
Oil of Lemon,	20 drops.
Oil of Bergamot,	10 drops.

Mix. First wash the head with soap and water, with a little eau-de-cologne; then rub it dry. Next morning rub it with a small lump of pomade, and repeat it daily. In four or five weeks a cure will be effected. Or the following:—

Burnt Alum,	½ drachm.
Biborate of Soda,	½ drachm.
Beef-Marrow,	1 ounce.
Essence of Bergamot,	6 drops.

Mix. To be rubbed on the head night and morning. Or the following:—

Oil of Mace,	½ ounce.
Olive-Oil,	2 drachms.
Water of Ammonia,	½ drachm.
Spirit of Rosemary,	1 ounce.
Rose-Water,	2½ ounces.

Mix. Or the following:—

Bay Leaves,	2 ounces.
Cloves,	¼ ounce.
Spirit of Lavender,	4 ounces.
Spirit of Thyme,	4 ounces.

Digest for six days, filter, and add ether half an ounce. To be applied every morning.

GRAY HAIRS.

The sedentary, the studious, the debilitated, and the sickly, are, with very few exceptions, those who are earliest visited with gray hair. Persons whose employment renders much sitting necessary, and little or no exercise possible, are most likely to carry gray hairs.

Treatment.—Mix thoroughly a small quantity of sub-nitrate of bismuth with any common pomatum, and brush a small quantity of it into the hair daily.

PART II.

Diseases of Women.

Women, in addition to the diseases incidental to both sexes, are subject, from their peculiar organization, to a number of distressing complaints; and, in many instances, through a mistaken sense of delicacy, their lives are shrouded in sadness and pain, from a want of proper information relating to their peculiar ailments. To woman is entrusted a most sacred charge—the germ of a new being, whose position and usefulness in life will be greatly influenced by her prudence or indiscretion.

We shall treat, under their various heads, the principal forms of disease and suffering that commonly affect the women of civilized life.

MENSTRUATION: ITS PHYSIOLOGY AND FUNCTIONS.

The functions of the uterus, by which the menstrual, catamenial, or monthly discharges take place, generally commence between the fourteenth and sixteenth years of age, although we have known them to begin as early as eleven or twelve. A considerable period may elapse between the appearance of the first and second menstrual discharge; but, when they are properly established, their recurrence at regular periods may be calculated on with great certainty, unless some functional or other derangement of the system interferes with them. Ordinarily, a lunar month of twenty-eight days is the intervening period; but with some women the discharge occurs every third week. The fluid discharged resembles blood in color, but it does not coagulate. The quantity is from three to five ounces, and the process occupies from three to seven days.

The cause of this monthly flow is the ripening and expulsion of the egg from the ovaries. We quote from Professor C. D. Meigs, of Philadelphia, a reliable and competent authority on these matters:—

"'*Omne vivum ex ovo*,' (every living thing comes from an egg, or germ), is the universal law of reproduction. This can be shown as well in the vegetable as in the animal kingdom. The sturdy oak from the acorn, the ear of corn from the grain planted by the farmer, the robin and the elephant, all springing from germs, go to prove the truthfulness of this law. Every seed, every egg, contains a germ, which, when brought under proper influences, will produce of its own kind. Thus far all is plain enough, but where do these germs originate? It has been ascertained that each animal, as well as each plant, is provided with an organ for the production and throwing off of these cells or germs. In the female, this organ is the ovary. The ovaries are two in number—small oval bodies, about one inch in length, a little more than half an inch in breadth, and a third of an inch in thickness. This measurement will differ in some cases, but will be found generally correct. Each ovary is attached to an angle of the womb, about one inch from its upper portion, by a ligament. The whole physiological function or duty of the ovary, is to mature and deposit its ova or eggs every twenty-eighth day, from the age of fifteen to that of forty-five, or for about thirty years. This function is suspended only during pregnancy and nursing, but sometimes not even then. There are numerous cases on record where the woman has had her courses regularly during the time she was pregnant, and there are many with whom lactation does not at all interfere. During the maturation or ripening, and discharging of the ovum into the canal or tube which conveys it into the womb, the generative organs become very much congested, looking almost as if inflamed. This congestion at last reaches such a height that it overflows, as it were, and produces a discharge of bloody fluid from the genitalia, or birth-place. As soon as the flow commences, the heat and aching in the region of the ovaries, and the weight and dragging sensation diminish and gradually disappear. Thus you will see that menstruation consists merely in the ripening and discharge of an ovum or egg, which, when not impregnated, is washed away by the menstrual fluid, or blood, poured out from the vessels on the inner surface of the womb. It will also be seen that a woman can become pregnant only at or near the time of her menses. The

marvellous regularity of menstruation has always excited great wonder, but why should it? When we look around, we see that both animal and vegetable life have stated and regular times at which germ production takes place. Fruits and vegetables ripen, and animals produce their young at certain periods. It is a law of nature, and why should not woman obey it in her monthly term? Now since we have shown that menstruation consists in the ripening and regular deposit of an egg—the flow being but the outward visible sign of such an act—it is possible that a woman may menstruate regularly without having any show. To prove this, there are many cases on record where a woman has married, and become pregnant without having had the least show, which would be impossible if she did not menstruate. Again, a woman who has always been regular may have several children, without in the meantime having had any sign. This may be explained by her becoming pregnant during the time she was nursing her first child, carrying it to the full term, again becoming pregnant, and so on, until being no longer impregnated, her courses return, and are regular thereafter.

"Menstruation commences at about the age of fourteen or fifteen in this country. In warmer climates it appears earlier, and in colder ones later. Menstruation, menses, courses, catamenia, monthly periods, and 'being unwell,' are some of the terms by which this function is designated. Those who are brought up and live luxuriously, and whose moral and physical training has been such as to make their nervous systems more susceptible, have their courses at a much earlier period than those who have been accustomed to coarse food and laborious employment. The appearance of the menses before the fourteenth year is regarded as unfortunate, indicating a premature development of the organs; while their postponement until after the sixteenth year is generally an evidence of weakness, or of some disorder of the generative apparatus. If, however, the person has good health, and all her other functions are regular; if her spirits are not clouded, nor her mind dull and weak, it should not be considered necessary to interfere to bring them on, for irreparable injury may be done. The first appearance of the menses is generally preceded by the following symptoms: Headache, heaviness, languor, pains in the back, loins, and down the thighs, and an indisposition to exertion. There is a peculiar dark tint of the countenance, particularly under the eyes, and occasionally un-

easiness and a sense of constriction in the throat. The perspiration has often a faint or sickly odor, and the smell of the breath is peculiar. The breasts are enlarged and tender. The appetite is fastidious and capricious, and digestion is impaired. These symptoms continue one, two, or three days, and subside as the menses appear. The menses continue three, five, or seven days, according to the peculiar constitution of the woman. The quantity discharged varies in different individuals. Some are obliged to make but one change during the period, but they generally average from ten to fifteen.

"It is during the menstrual period that the system, especially of young persons, is more susceptible to both mental and physical influences. Very much depends upon the regular and healthy action of the discharge, for to it woman owes her beauty and perfection. Great care should therefore be used to guard against any influences that may tend to derange the menses. A sudden suppression is always dangerous; and among the causes which may produce it may be mentioned sudden frights, fits of anger, great anxiety, and powerful mental emotions. Excessive exertions of every kind, long walks or rides, especially over rough roads, dancing, frequent running up and down stairs, have a tendency not only to increase the discharge, but also to produce falling of the womb."

The quantity and duration of the emission varies greatly in different women, and unless the former is either very scanty or excessive, these do not appear important particulars; but the regular recurrence of the issue is important to health. This should be borne in mind, and due care taken not to suppress the discharge by exposure to cold or wet, or by violent exertion of any kind about the time when it may be expected. It is desirable that young females should be properly informed by their mothers, or those under whose care they are placed, of what may be expected at a certain age, or they may be alarmed at the first appearance of the menses, taking it to be some indication of a dangerous disease or injury, and, perhaps, by mental agitation, or a resort to strong medicines, do mischief to themselves.

DISEASES OF THE MENSTRUAL FUNCTION.

DELAYED OR OBSTRUCTED MENSTRUATION.

If the menses do not appear at the usual age, or for some years after, no alarm need be felt, provided there is no constitutional

derangements which can be attributed to this cause. If the girl has not developed about the hips and breast, and feels not the changes peculiar to this period, it would be very injurious to attempt to force nature. If, however, she is fully developed, and her general health suffers, a course of treatment will be necessary.

Causes.—An undeveloped state of the germ-producing organs; an impoverished condition of the blood; habitual costiveness; or the womb may be closed, or hymen be imperforate.

Symptoms.—Discharges of blood will sometimes occur from the nose, mouth, and gums, or from the stomach and bowels. Nearly always there will be unnatural heats and flushings, headache, tendency to faint, and hysterical symptoms.

Treatment.—The patient must be very attentive to her diet and regimen. Much exercise should be taken in the open air. Avoid late hours, rich food, and exciting pursuits. If the retention proceed from costiveness or bad condition of the system, use the means as directed under the several heads. If from a mechanical cause, a physician must be consulted. Where it results from defective action of the ovaries, give the following:—

Carbonate of Iron,.....1 drachm.
Extract of Gentian,.....1 drachm.

Mix, and make into thirty pills. Dose, one pill two or three times a day.

SUPPRESSED MENSTRUATION (*Amenorrhœa*).

Suppression is the stoppage of the menses after they have been once established. It may be either acute or chronic.

Causes.—Sudden cold, wet feet during the flow, fear, strong emotions, anxiety, or any cause that affects the general health. Chronic suppression may result from the acute, or from defective nutrition of the organs; from the early termination of menstrual functions, or from the weakness occasioned by a profuse discharge of whites from the uterus.

Symptoms.—The symptoms usually present in a well-developed body are all those mentioned in delayed menstruation, in a more aggravated form. In chronic suppression, failure of the general health, loss of appetite, pains in the head, back, and side, and constipation, are the usual symptoms. At the regular periods when the

menses ought to appear, there will be great excitability, and an aggravation of the above symptoms. With those of full habit, there will be a strong, bounding pulse, with acute pain in the head, back, and limbs; with the feeble and sickly, extreme languor, tremblings, shiverings, and pale visage.

Treatment.—Care must be taken that pregnancy is not the cause of the stoppage, or the health may be seriously injured by treatment for their restoration. Where the flow has stopped suddenly from exposure, the patient must take warm diluent drinks, saline aperients, till the bowels are freely opened; have hot bran-poultices applied to the lower part of the abdomen; immerse the feet and legs in hot water, rendered stimulant by the addition of mustard. If the pain is extreme, take an opiate draught every four hours, and have a lavement, with one drachm of turpentine and half a drachm of tincture of opium thrown up. The patient must be kept as quiet as possible. If it can not be brought on, wait till the next period, and use the hip-bath a few days before the period. Every other night the bath should be made more stimulant by the addition of a little mustard; and, on every occasion, active friction with dry coarse towels should be used. A lavement containing two drachms of spirits of turpentine may also be useful; and a leech or two applied to each thigh, on the upper part, as near to the situation of the uterus as may be. Also, give the following, which seldom fails if persisted in:—

Barbadoes Aloes, ...1 drachm.
Sulphate of Iron, ...1 drachm.
Powdered Cayenne, ...½ drachm.
Extract of Gentian, ...½ drachm.
Simple Syrup, sufficient quantity.

Mix, and make into sixty pills. Dose, one pill night and morning.

The warm hip-bath should be used about the proper period of menstruation; and it would be well to give some uterine stimulant, such as a mixture composed of spirits of turpentine, made into an emulsion with yolk of an egg, sugar, and essence of juniper, about six drachms of the first and one of the last, in a six-ounce mixture. One ounce to be taken three times a day. Attempts to promote the discharge in any case must not be prolonged much beyond the menstrual periods, between which all possible means must be taken to strengthen the system,—good diet, plenty of active exercise, the

use of the shower-bath, or cold or tepid sponging; steel mixture, with aloes and iodine, in one or other of its forms, are the proper remedies.

If the amenorrhœa proceeds from a want of energy in the uterine organs to secrete the red discharge, as is often the case after frequent miscarriages, child-bearing, or inflammation of the womb, as well as after leucorrhœa, or "whites," there will probably be the usual signs of menstruation, followed by a white discharge only, and accompanied by acute pain at the bottom of the back, vertigo, and hysteria. Weakly young women, before accession of the menses, and elderly ones, at the time of their cessation, or "change of life," as it is commonly called, are often so affected. In such a case we should prescribe hot baths and tepid injections, pills of sulphate of iron and aloes, with balsam of copaiba, ten or twenty drops in milk, three times a day; or powdered cubebs, from a scruple to half a drachm; good diet and a recumbent position as much as possible during the periods. If the patient is of a full habit, apply leeches, ten or twelve over the sacrum, to be followed by a blister, with restricted diet, and, for a time, avoidance of sexual intercourse.

PAINFUL MENSTRUATION (*Dysmenorrhœa*).

This is the rule with some females, but the exception with most. It does not seem to be in any way connected with the quantity of the discharge, and it may attend both the secretion and the emission; or but one or other of the processes, and but partially, coming on in paroxysms, or continually, during the whole process. The matter discharged is often thick and membraneous, and sometimes has in it clots and streaks of blood.

Causes.—The cause of this is not very clear. It has been observed to occur after strong mental emotions, a cold caught during the menstrual period, a fright or other shock to the system, and would seem to indicate an irritable state of the womb.

Treatment.—Use the warm hip-bath and friction; fomentation of the parts with warm water; diluent drinks, saline aperients, and a spare diet, must be followed; also, injection of warm water high up into the vagina; and take the following mixture:—

Tincture of Aconite-Leaves, ...2 drachms.
Best Spirits of Nitre, ...1 ounce.
Morphia, ...3 grains.
Simple Syrup, ...4 ounces.

Mix. Dose, one teaspoonful every half hour till relieved.

PROFUSE MENSTRUATION (*Menorrhagia*).

This consists either in the too frequent return, or too long continuance of the periods; or in an excess of quantity during the natural periods; or in the character of the discharge being other than it should be, such as thick, fibrous, or bloody.

Causes.—This is in consequence of irritability of the uterine system, probably produced by over-exertion, luxurious living with insufficient exercise, or excesses of any kind; too rapid child-bearing, frequent miscarriages, or protracted lactation. The habitual use of tea and coffee will also produce it.

Symptoms.—It is generally accompanied by pain across the loins, great languor and debility, throbbing of the temples, headache, and vertigo. When there is much hæmorrhage, there is an aggravation of these symptoms, sometimes followed by dropsy of the cellular tissue.

Treatment.—In persons of full habit, where the menses are not bloody, the following may be taken:—

Sulphate of Iron,	12 grains.
Dilute Sulphuric Acid,	1 drachm.
Sulphate of Magnesia,	6 drachms.
Cinnamon-Water,	12 ounces.

Mix. Take two table-spoonfuls three times a day. If there is much pain, add tincture of henbane, two drachms; or compound infusion of roses may be taken, with sulphate of magnesia; or ten or fifteen drops of the muriated tincture of iron in water, with or without the salts, as the bowels may require, two or three times a day. Sponge the loins and pubenda with vinegar and water, use the hip-bath, but let it be cold water, with a little salt in it, to strengthen the system as much as possible, and avoid all enervating influences. If there is blood in the discharge, use cold vaginal injections, with alum and opium in them, or the latter with gallic acid, about a drachm of each to a quart of water. Apply hot bran-poultices to the breasts; keep the feet warm, but let the loins be lightly covered; take gentle exercise, bitter ale, and tonics, especially iron.

CESSATION OF MENSTRUATION.

As the accession of the menses shows when the womb is in a fit state for conception, so then, cessation gives notice that the period

of child-bearing is past. With females of our age and country they commonly continue up to the age of from forty to fifty; sometimes they cease at about thirty-five, and in a few instances have been known to continue up to the age of sixty. This cessation marks what is commonly termed the turn or change of life in women, and with those of average health it occasions little or no disturbance of the general system. There may be flushings of the face, and a sense of fullness in the head, with occasional giddiness; but with those who are weakly and nervous, or suffering under any organic disease, we generally see a marked change at this period,—it may be for the better or worse, according to circumstances. With most persons the stoppage of the menses is a gradual process,—the quantity decreases, or the intervals become protracted, and it is probably superseded by a white discharge, which also will by and by disappear; with some the cessation is sudden and complete.

Women generally consider this an eventful period of their lives, and attribute all sorts of wonderful effects to it; but we can not learn that a sickly constitution was ever renovated at this time, or a strong one ever broke down in consequence of the change; indeed, fewer women than men die at the age when it usually takes place. Diseases of the genital organs, and of the breasts, which are sympathetically associated with them, require special attention at this time, as they are likely to be stimulated into activity. When there are no complications of disease connected with the change, little or no medical treatment is required. It is best to observe an abstemious diet, and to keep the bowels moderately open with rhubarb or colocynth pills; powdered aloes, with canella, commonly called hiera picra, is a popular opening medicine, and as good as any for such an occasion, except the patient be of a very full habit, in which case it should be a saline aperient like the following: Dissolve two ounces of epsom salts in a pint of warm water, add one drachm of essence of peppermint, and take a wineglassful every morning, or twice a day if required. If there is flatulency or hysteria, add to each dose twenty drops of the fœtid spirits of ammonia, or the same of ether.

Herbal, or Eclectic Treatment for Menstrual Disorders.

The general treatment is the same as before mentioned. On the first appearance of the menses, let the greatest care be exercised

over the health; let nothing check the natural flow. Colds taken at this time are very dangerous, and may result in delicate health, barrenness, and even death.

For suppressed menstruation, as soon as possible use the tepid foot-bath. At the same time sit over a vessel of warm water, in which has been boiled some bitter herbs, till a profuse perspiration is produced. Then retire to a warm bed, and take every hour or two a teacupful of warm tea made from the root of bervine. If this is not successful, give a little pulverized mandrake-root, with a little cream of tartar, on an empty stomach; after which pennyroyal or motherwort tea may be drank freely. If much pain is felt, apply fomentations of bitter herbs to the region of the womb, or a heated brick may be placed over the bowels. For profuse menstruation, the patient should assume the recumbent position, with the hips elevated as much as possible, on a hard bed, in a cool room. Bathe well the lower part of the abdomen with cold water or vinegar. From thirty to forty drops of elixir of vitriol may be taken, in a glass of water, two or three times a day; or ten to fifteen drops of the tincture of steel given in the same manner. The following has been highly recommended:—

Take equal parts of red-alder bark, yarrow, mullen, and crowfoot, and half the quantity of beth-root; make into a tea; when cold, drink a teacupful every three or four hours. If faintness be felt, take a few drops of lavender or spirits of hartshorn in a little cold water.

In painful menstruation, great benefit is received from the use of the warm bath; and apply hot water in bottles to the whole surface of the abdomen, with hot bricks to the feet; or apply a hot poultice or fomentation of hops, tansy, or boneset, and take the following:—

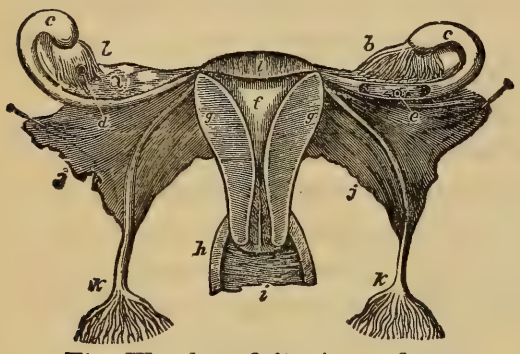
Pulverized Camphor,	25 grains.
Macrotin,	25 grains.
Ipecac,	25 grains.
Cayenne,	12 grains.
Opium,	12 grains.

Mix, and make into twenty-four pills, with extract of hyosciamus, and take one pill every two, three, or four hours, according to the urgency of the case.

THE WOMB AND ITS DISEASES.

This most important organ in woman is situated in the cavity of the pelvis,—from whence, when distended in pregnancy, it rises into the abdomen, with the general lining membrane of which and the pelvis, called the peritoneum, it is covered. It is of a flattened pear-shape, and is held in its place by elastic ligaments. In its unimpregnated state it is about three inches in length by two in breadth across the broadest part, and one in thickness. At the period of puberty it weighs about one and a half ounces; after parturition, from two to three ounces; and in the ninth month of utero-gestation, from two to four pounds. It is supplied with glands, vessels, and nerves, the latter of which constitute an extensive network over its entire surface.

FIG. 93.



The Womb and its Appendages.

a, Right Ovary; *b*, *b*, the Fimbriæ; *c*, *c*, the Fallopian Tubes; *d*, an Ovum being grasped by the Fimbriæ; *e*, an Ovum descending the Fallopian Tube to the Womb; *f*, Cavity of the Womb; *g*, *g*, Walls of the Womb; *h*, Wall of the Vagina; *k*, *k*, Ligaments of the Organs.

The ovaries are two in number—one on each side of the uterus, in the groin. They are nearly as large as the male testicles, and perform a corresponding function. When the germ (or ovum) has been perfected in the ovary, it is cast out, and seized by the extremity of one of the fallopian tubes, through which it is conducted to the uterus.

FALLING OF THE WOMB (*Prolapsus Uteri*).

Prolapsus Uteri is the falling of the womb from the weakening of its membraneous supports and the pressure of the viscera above, generally increased by tight lacing, the pressure of the clothing, sustained by the abdomen and adding to its weight upon the uterus, and by the pressure of a load of fæces in the constipated rectum, and the daily efforts to expel them. These causes, all acting together, press the uterus down the vagina until it sometimes comes out externally. As nearly all women are exposed to some of these causes of falling of the womb, nine in ten have more or less of it.

Even young girls, eighteen or twenty years old, have falling of the womb. Very few entirely escape it, for very few women are entirely well.

Treatment.—Avoid tight corsets and heavy skirts; suspend the under garments from the shoulders, and not from the waist, as is usually done; avoid fatigue, and lie down as much as possible; use the cold hip-bath once or twice a day, and inject cold water into the vagina with a syringe; use plain vegetable diet, and avoid tea and coffee, spirituous drinks, &c. If the womb has descended to the external orifice, it is often necessary to restore it to its natural situation by pressing it upward and backward by a finger or two passed into the vagina. If there be any pain in this operation, the vagina should be well washed by injections of thick flaxseed or slippery-elm bark tea for a day or two before the astringent washes are used.

When the womb has passed completely out of the vagina, which is always drawn down and inverted, the parts sometimes become suddenly so swelled that it would be impossible, as well as improper, to return them at once. The inflammation is to be reduced by leeches, ice-water, or warm fomenting poultices of bread and milk, or hops and flaxseed, continually applied until the swelling and pain subside; then, with the hand well oiled, and the patient's hips well elevated upon a cushion or pillow at the edge of the bed, the organ is to be passed carefully within the vagina, and restored to its natural situation. The bowels and bladder must be regularly evacuated; but the patient should not be allowed to rise for several days, and should even then assume the upright position very gradually and cautiously, after having used injections composed of the following ingredients:—

Take one drachm of alum, and dissolve it in half a pint of clear water; or, half an ounce of the inner bark of the black oak, with three gills of water; boil down to a pint, and strain. Two ounces of either of these preparations should be injected into the vagina by means of a vagina-syringe. This operation should be repeated twice a day, for a week or more,—the syringe being always well lubricated with lard or oil, that it may be introduced without difficulty or pain.

If there is much sensibility, use from thirty to forty drops of laudanum in the injection, and repeat the operation daily till it is removed. If there are frequent relapses, a pessary must be worn.

The womb is also liable to fall either backwards (*Retroversion*) or forwards (*Anteversion*), but the treatment of these conditions must be confided to an experienced physician.

INFLAMMATION OF THE OVARIES (*Ovaritis*).

This disease is characterized by pain, heat, swelling, perhaps redness, in one or both groins. It is to be treated as any other inflammation—sitz-baths, with rest, and a strict diet. The bowels must be occasionally opened by a gentle aperient, as castor-oil. Injections of tincture of belladonna and hyoscyamus are very useful and soothing.

INFLAMMATION OF THE WOMB.

The treatment is the same, with the addition of injections, both to the rectum and vagina, cold if they can be borne, or with the chill off.

The ovaries, uterus, and fallopian tubes are so closely connected in situation and function, that they are generally inflamed together. The cause may be weakness, causing a local determination of some general disturbance, such as cold or irritation of these organs. It usually follows childbirth, abortions, or excessive and violent sexual intercourse.

ULCERATION OF THE NECK OF THE WOMB.

Ulceration of the neck of the womb is produced by corroding discharges and the irritation of continual sexual intercourse. It is readily cured by abstinence, vaginal injections, and direct applica tion to the parts of a strong solution of nitrate of silver once in five or six days; or the ulcers touched with solid nitrate of silver once in five days.

FLOODING (*Uterine Hæmorrhage*).

This commonly occurs after abortion, in the puerperal stage of labor, or it may be occasioned by disease of the womb. Immoderate flow of the menses is also called flooding, and to this some women are very subject. It is extremely weakening to the system, and should be checked as soon as possible.

Treatment.—The best treatment is perfect quiet, and astringent and tonic medicines like the following:—

Tincture of the Sesquichloride of Iron,.....2 drachms.
Infusion of Quassia,.....6 drachms.

Mix, and take a table-spoonful every four hours. If there is much pain and irritation, add tincture of conium, or hyoscyamus, two drachms. Should this not have the desired effect, consult a medical man, as there may be disease of the womb.

POLYPUS OF THE WOMB.

When a woman has been wasting away for some time, under a more or less copious discharge of blood, and the remedies recommended under the head of flooding, have been faithfully but unsuccessfully used,—when, during this time, she has remained free from burning and pain in the part, but has merely complained of a sense of weight in the womb,—there is great reason to suppose that she has a polypous excrescence growing there, and the best advice should be at once procured.

CANCER OF THE WOMB.

Symptoms.—A sudden pain which shoots through the bottom of the abdomen, and either disappears entirely, or leaves after it a dull aching or a gnawing sensation, accompanied by more or less discharge of a fluid, which is sometimes pale and thin, but soon becomes thicker, yellower, perhaps streaked with blood, and very offensive. This pain is gradually rendered more severe and almost constant, and an exhausting hæmorrhage sets in at times, perhaps continuing until checked by fainting. In other cases, a burning heat, followed by a fœtid discharge of matter mixed with streaks or spots of blood.

Treatment.—Cleanliness, fresh air, plain nutritious diet, regulation of the bowels, and tranquillity of mind, are all that can be recommended in a work like this. The woman who has the misfortune to be visited with this affection, must resolutely determine to retire early from the active duties of life, and be content to abstain from indulgences which would heat the system, excite her passions, and increase the circulation of blood. Bland, soothing nourishment, and

local applications, are all that can be administered until she can have judicious and experienced medical assistance. Her bowels should be kept open by the mildest laxatives that will effect the object; the fœtid and erosive discharges should be washed away by injections of flaxseed tea, Castile-soapsuds, or a solution of chloride of lime or soda, with a little hop or camomile tea. When the hæmorrhage becomes very profuse, the vagina should be plugged up with a fine sponge or a strip of soft cotton or linen rag, imbued with strong alum-water.

Formidable as the last two diseases are, they are not always beyond the reach of surgery.

WHITES (*Leucorrhœa*).

There is no disease so common among women as this complaint. Few married women, particularly if they are mothers, escape its attacks. Very generally this troublesome discharge is associated with general debility, especially if it has continued profuse for any length of time. Hence it is very desirable that attention should be paid to it at the commencement; for, if neglected, it may seriously impair the constitution, and grow from a comparatively mild affection into an inveterate and dangerous disease.

Causes.—Over-exertion of the uterine organs, irritation of the rectum from loaded and constipated bowels. It may also be brought on by diarrhœa, piles, worms, irritation of the bladder or of the nervous system, excessive sexual intercourse, miscarriage, abortion, and displacement of the womb. Weakness, too, is a cause of *fluor albus*, as well as a consequence of its long continuance; confinement in a warm atmosphere, luxurious living, and chlorosis must likewise be numbered among its exciting causes.

Symptoms.—This disease may be distinguished from gonorrhœa by the absence of local irritation and swelling of the external parts, and the glands of the groin; also by the discharge being less regular and copious. In leucorrhœa this is commonly at first white and pellucid, or it may be opaque and thick, coming away now and then in lumps. After awhile the color will perhaps change to green, yellow, or brown, and sometimes it will become very acrid, causing abrasion and smarting on passing the urine. In this stage it is apt, especially during pregnancy, to cause a gleety discharge from the urethra of one having sexual intercourse with the patient. Ere long,

if the disease is not checked, we get great local irritation and constitutional disturbances: there will be costive bowels, pains in the loins and back, great lassitude, with nervous and hysterical affections. Menstruation, too, will be irregular, at one time being altogether suspended, and at another too abundant.

Treatment.—If the patient is of full habit, saline aperients should be taken, and a spare diet observed; local ablutions should be practised three or four times a day, using occasionally a decoction of poppies for the purpose; the hip-bath, and an injection of goulard water, with a scruple of powdered opium in each pint, will also be found serviceable. The recumbent position should be preserved as much as possible, and the parts kept cool. The practice of wrapping them up is objectionable, as it heats and weakens them. Local treatment will be of little avail in cases of long standing, unless the general health be attended to. To keep the bowels gently open, take five grains compound rhubarb pill, as often as required; and to strengthen and cool the system the following mixture:—

Sulphate of Iron,	12 grains.
Diluted Sulphuric Acid,	1 drachm.
Sulphate of Magnesia,	4 drachms.
Cinnamon-Water,	12 ounces.

Mix, and take two table-spoonfuls two or three times a day. In obstinate cases, there should be an injection into the vagina of a solution of alum and sulphate of zinc, three drachms of the former and one drachm of the latter to a pint of water; three or four ounces to be thrown up while the patient lies with the hips rather elevated; this position to be retained for some time, with the parts covered by a cloth or sponge, so that the fluid may be kept in. If there is itching and irritation of the parts, it may be allayed by an injection composed of carbonate of soda, two drachms, in a quart of bran tea. If the simple alum and zinc injection proves ineffectual, add a drachm of powdered catechu to each pint, or use decoction of oak-bark as a vehicle for the above salts. When there is much debility, with suppressed or scanty menstruation, preparations of iron (as the above mixture) with compound steel pills, or some compound of Canada balsam, three grains, and a half grain of quinine; or a half drachm of quinine with one drachm dilute sulphuric acid, in six ounces of gentian or cascarilla; a table-spoonful to be taken two or three times a day. Should there be profuse menstruation, nothing is so likely

to be effectual as the iron and acid mixture, with or without the sulphate of magnesia, according to the state of the bowels. Mustard poultices to the lower part of the back, or stimulant liniments, rubbed well in every night, for a time, will often prove useful.

Women who are likely to have leucorrhœa should avoid all predisposing causes of the disease, such as wines and other stimulants, and hot tea and other slops taken in large quantities; luxurious living, and sensual indulgences of all kinds, especially much sexual intercourse, and anything which has a tendency to enervate and enfeeble the frame. Early rising and regular open-air exercise, warm and comfortable clothing, good food and tonic medicine, with use of the shower-bath and bathing,—these will prove the best preventives.

Herbal, or Eclectic Treatment for Womb Diseases.

For the whites, care must be taken not to arrest the discharge too soon, or bad consequences may ensue. Use every means to improve the general health. Avoid hot rooms, excessive exertion, and strong tea and coffee. A decoction of the roots of comfrey-root, boiled in milk, is highly recommended. Take a teacupful three or four times a day. Injections of alum-water or decoction of oak-bark, are very good. A preparation of one ounce of tincture of aloes and two drachms of muriated tincture of iron, well mixed, and forty drops taken three times a day in a little water, has been found of great advantage.

For falling of the womb, an infusion of white-oak bark, or an infusion of equal parts of peach-leaves, Solomon's seal, and hops, as an injection, will produce excellent results. Where heat and difficulty in making water exists, give a drink of infusion of marsh-mallow and spearmint.

PREGNANCY AND ITS DISORDERS.

Utero-gestation, or the period of child-bearing,—that is, from the time of conception to that of delivery,—extends over a period of forty weeks, or two hundred and eighty days. It is commonly set down as nine calendar months, but this would make only two hundred and seventy-five days; or, if February be included, two hundred and seventy-two days; that is, thirty-nine weeks only, instead of

forty, or nine calendar months and a week. In making the necessary provision for the coming on of labor, it is best to calculate from midway between the last occurrence of menstruation and the one which would have followed if conception had not taken place, and allow nine calendar months from that time. Thus, if menstruation had taken place on the first of January, labor might be expected some time about the middle of October.

The Signs of Pregnancy.

The chief signs of pregnancy are as follows:—

1. The cessation of the menses,—although this is by no means an unfailing sign, for sometimes this discharge will cease from other causes, and sometimes it will continue after conception has taken place.

2. Morning sickness, which generally commences about the fourth or fifth week, and lasts to about the fourth month. With some this is but slight, and causes but little inconvenience; but with others it is more continuous and serious, sometimes causing the rejection of nearly all food for a very considerable period. This symptom, again, can not be taken as a proof of pregnancy: it is merely a suspicious circumstance, to be watched in connection with others.

3. Enlargement of the breasts, which generally increase in size about two months after conception. They also become tender and sore; they throb and burn, and, when pressed by the hand, have a hard knotty feel, in consequence of the swelling of the glands by which the lacteal fluid is secreted. The nipple, also, becomes more prominent, and increases in diameter, while the areola around it assumes a purplish tinge, and has on it several little raised pimples of a yellowish-white color.

4. Enlargement of the womb and abdomen, which, in the fourth month, becomes very perceptible,—the womb, which may now be felt in a firm rounded body, having ascended above the bone of the pubes, and pushed the bowels up into the abdomen.

5. A tendency to flatulent distension of the stomach, towards evening especially, rendering insupportable a pressure of stays, &c., which in the morning could be easily borne.

6. "Quickening," which is the mother's first perception of the second life within her. There is at first, probably, a very slight tremulous motion, like a mere pulsation. This day by day grows

stronger, until it becomes quite distinct, often painfully so. It is as though the child, to use a scripture phrase, "leaped in the womb." These movements can be distinctly felt by the hand placed upon the abdomen.

There are other and less obvious signs, which only the professional man would be likely to detect. All may notice, however, the change which generally takes place in the countenance. The mouth and eyes seem to enlarge, and the nose becomes what is generally termed more or less "pinched up." There is an alteration, too, in the color of the eyes, which become somewhat paler,—especially is this perceptible if they are blue eyes. Then the patient is generally fidgetty, peevish, and restless, exhibiting a high degree of nervous irritation; she has odd fancies, and longings after out-of-the-way things and articles of diet, which should be procured for her if possible. At such a time she requires soothing and humoring: harsh and unkind treatment will be likely to have a most injurious effect, both upon her and her offspring.

Management and Conduct of Mothers during Pregnancy.

A pregnant woman should be made aware that the advantages obtained by well-regulated habits are by no means exclusively conferred on her, but that others equally important are likewise conferred on the child, for whom a larger supply of nutrition, and of a better quality, will thus be provided; and so, being nourished by sound and healthy fluids, will commence its career of life strong, vigorous, and less liable to those morbid debilities and derangements which affect the children of the indolent, the pampered, or the debauched.

From the moment, therefore, that conception has taken place, a new and most sacred duty devolves upon the female. She is bound by all the ties of maternal sentiment, of humanity, and of moral and religious obligations, to protect the nascent being in her womb against every circumstance, under her control, which might have an unfavorable influence on its delicate organization.

The state of pregnancy is one peculiarly liable to disease and injury; and we daily witness much suffering and danger incurred both to the mother and the child, from the influence of causes which, with proper care, might have been avoided altogether, or, at least, rendered inoffensive.

Diet during Pregnancy.

The peculiar tendency to febrile irritation and general plethora, in pregnancy, renders it especially proper to avoid undue excitement and nourishment during this period. Not that the pregnant female is to be dieted like a valetudinarian; but that moderation and simplicity of food is especially proper in her case. As the appetite is frequently very craving during this period, an inordinate indulgence in rich and high-seasoned food is among the most common errors; and this mistake is the more readily fallen into from the erroneous idea which many entertain, that, as the fœtus draws its nourishment from the maternal system, a greater quantity of aliment is required in pregnancy. The exercise of caution in the selection of proper food, appears to be particularly important towards the termination of gestation. When the stomach is in a weak and irritable state, rice, barley, arrow-root, oatmeal, the lean part of mutton, tender beef, soft-boiled eggs, and stewed apples constitute appropriate articles of nourishment. But it is always to be recollected, that the temperate use of food is of more consequence than any very cautious selection as to its kind. Coffee and tea may be moderately used; but all vinous or alcoholic drinks should be studiously avoided. The temptation to indulging in small portions of cordial, or brandy, in the early months of gestation, is often very strong; but it ought to be firmly checked, or the deplorable habit of solitary dram-drinking may be the result of indulgence in these potent stimuli.

The appetitive sensibilities of the stomach, in some instances, undergo extraordinary derangement, especially in weak and delicate females. Articles of food which, previous to pregnancy, were very grateful and congenial, become highly disagreeable, and an almost irresistible craving for singular and even disgusting substances, is experienced. This remarkable irregularity of the appetite is usually called *a longing*. If the substances longed for be not evidently of an injurious character, they should not be withheld; in some instances, these longings may be regarded as instinctive calls of the stomach for articles favorable to the health of the individual. Thus, when a strong desire for eating chalk, charcoal, or clay, is manifested, we are admonished that the digestive powers are feeble and that there is a tendency to acidity in the stomach. In such cases the means of relief are alkalines, mild laxatives, and tonic vegetable bitters, with a suitable regimen.

Dress and Exercise.

The custom of wearing tightly-laced corsets during gestation can not be too severely censured. It gives rise to functional disorder of the stomach and liver, as well as to uterine hæmorrhage and abortion in the mother; it likewise impedes the regular nourishment of the fœtus in the womb. The clothing should always be sufficient to protect the body against the injurious influence of cold and atmospheric vicissitudes: the abdomen and feet especially should be guarded against injury from these causes. In winter, or cold and damp seasons, the use of a flannel bandage or roller around the abdomen will be found very beneficial and comfortable. All kinds of agitating exercise, such as riding in carriages with rapidity over rough roads, dancing, lifting or carrying heavy loads,—in short, all masculine and fatiguing employments whatever, ought to be avoided by pregnant women; and the more so as gestation approaches the term of its regular completion. During the eighth and ninth months of pregnancy unusual exertion or fatigue is particularly apt to excite premature labor. It is to be observed, however, that if injury is apt to result from too much exercise, injurious consequences may also arise from too much indolence and inactivity. Riding in an easy carriage on even roads, or moderate walking, may be enjoyed with great propriety, and usually with obvious advantage during gestation Sexual intercourse should be avoided after conception: it is useless to reproduction, and is interdicted by moralists and physicians, as prejudicial to the parents and their offspring.

Moral Influences.

Tranquillity and cheerfulness of mind are of prime importance during pregnancy. Convulsions, severe hysteria, spasms, syncope, hæmorrhage, and abortion, may be produced by violent anger, terror, or jealousy, during pregnancy. Intense grief will occasion debility, indigestion, jaundice, and various other functional disorders. A strong excitement of the imagination is supposed by some to be capable of producing impressions on the fœtus in the womb.

The Breasts.

The breasts and nipples should be particularly attended to during the latter months of gestation, in order to prepare them for suckling the infant. For some weeks before the expected termination of gestation, the nipples should be daily washed with lukewarm water,

then dried by exposing them to the free air, and afterwards gently rubbed for five or six minutes with a soft piece of flannel, or with the extremities of the fingers. When the skin of the nipples is very delicate and sensitive, they may be washed with brandy and water, or a wash composed of two drachms of the tincture of myrrh, one drachm of laudanum, and two ounces of water. In using this, the nipples should first be bathed with lukewarm water, and dried and rubbed as before directed, and then washed with the lotion. Compression of the breasts by corsets, or any other artificial means, is carefully to be avoided. When the nipples are very small, or sunk in the breasts, they should be drawn out by means of a suction-pump with a common clay tobacco-pipe. This process should be repeated several times daily, until they have acquired a sufficient degree of prominency.

DISEASES OF PREGNANCY.

Morning Sickness.

This complaint is sometimes very troublesome and obstinate.

Treatment.—The patient should have breakfast in bed, and remain in a recumbent position for some time after. Small lumps of ice put into the mouth and allowed to dissolve, will sometimes give relief. Give, if the sickness is troublesome, three times a day, a mixture composed of one scruple of bicarbonate of potash or soda, dissolved in a wineglass of water. Take, while effervescing, with a table-spoonful of lemon-juice.

Constipation.

During the latter months of pregnancy, constipation is nearly always present, the pressure upon the lower bowel being the cause. Neither aloes nor any violent cathartic should be taken. A moderate dose of castor-oil may be administered about every other day, or as often as necessary; but if the stomach nauseates at repeated doses of this, try the following mixture:—

Sulphate of Magnesia,	1 ounce.
Infusion of Roses,	6 ounces.
Cinnamon-Water,	2 ounces.

Dose, a wineglassful every morning early. If, as is sometimes the case, diarrhœa supervenes, give the following:—

Chalk Mixture,	6 ounces.
Aromatic Confection,	2 drachms.
Tincture of Opium,	½ drachm.

Dose, a table-spoonful every three or four hours.

Heartburn.

This may be removed by moving the bowels with a little magnesia, and taking a wineglassful of lime-water in milk two or three times a day; or carbonate of potash and magnesia, of each ten grains, in cinnamon-water, with one drachm of tincture of gentian.

Incontinence of Urine.

The frequent desire to make water, arising from irritation of the bladder, should be attended to, as long retention of urine may cause retroversion of the womb and abortion. An abdominal belt will be found of great service in the renal affections of pregnancy. Effervescing draughts, with ten grains of nitrate of potash and the same of magnesia, will also be found serviceable; and if there is much pain, add five grains of laudanum, and apply hot fomentations or use the hip-bath.

Cough.

If there is cough, which frequently attends pregnancy, give any soothing pectoral mixture. If the cough is attended with pains in the chest, or headache, apply in the former case mustard-poultices over the sternum.

Varicose Veins.

For cramps and pains in the legs, with swelling and varicose veins, sponge the legs with cold vinegar and water, and put on roller bandages or elastic stockings, and rest in a recumbent position.

Itching of the Private Parts.

Itching about the vagina, with gleety discharges, call for the use of the hip-bath, and a slightly astringent injection, such as goulard water, a weak solution of alum, or an infusion of green tea.

Restlessness at Nights.

For dreams and restless nights, extract of hemlock, or henbane, five grains at bedtime, with strict attention to the condition of the bowels.

Melancholy, Despondency, &c.

Despondency frequently seizes upon those who are about to become mothers; but generally, if the health be pretty good, it is shaken off as the great trial approaches. There are some women

who are never so well and cheerful as during the time of pregnancy, but many there are to whom it is indeed a period of trial and suffering; and especially is this the case with those who are about to become mothers for the first time.

False Pregnancy.

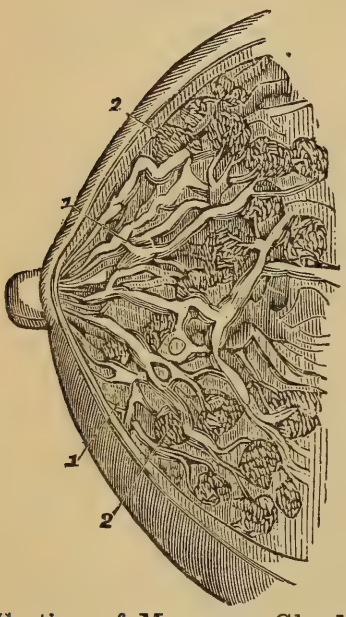
It is necessary to the completeness of our subject that we say a few words here about false or spurious pregnancy. A condition of the female system of a remarkable kind, most frequently observed about the turn of life, when the catamenia becoming irregular, previous to their final cessation, are suppressed for a few periods; and, at the same time, the stomach being out of order, nausea or vomiting is experienced, the breasts enlarge, become sensitive or even slightly painful, and sometimes a serous or acrolactescent fluid exudes from the nipples and orifices of the areolar tubercles; the abdomen grows fuller and more prominent, especially in women of full habit and constitutionally disposed to *embonpoint*, and the abdominal enlargement progressively increases, partly from deposition of fat in the integuments and in the omentum, but still more from distension of the intestines by flatus, which, passing from one part to another, communicates a sensation like that produced by the motion of a fœtus; the nervous system is generally much disturbed, and the woman feels convinced that she is pregnant, an idea which, at the time of life alluded to, is cherished by the sex with an extraordinary devotion, and relinquished with proportionate reluctance; and not unfrequently at the end of the supposed gestation, the delusion is rendered complete, and almost assumes the character of a reality, by the occurrence of periodical pains strongly resembling labor.

THE BREAST AND ITS DISEASES.

We use this term in its restricted sense, as applied to the fleshy protuberance common to women, in which is situated the mammary glands, for the secretion of the milk by which the infant is nourished. Its full development depends greatly upon habit and constitution, being in some much more early in advancing womanhood, of which it is one of the most remarkable signs, and prominent in full maturity, than in others. In the earlier stages of pregnancy, its fullest development commences: the breast swells, and the nipple enlarges, and by, or near, the time of delivery it is filled with lacteal fluid, which passes readily, on suction, into the mouth of the child. Too frequently the

proper enlargement of the breast, and increase of the nipple, is retarded by tight lacing. The consequences, sometimes, are hardened and congested states of the tissues, an insufficient supply of milk, or a failure of it altogether; or a nipple so flattened and pressed into the breast that it can not be taken hold of by the mouth of the infant. Abscess, cancer, and other evil consequences may also ensue from undue presure upon such tender parts.

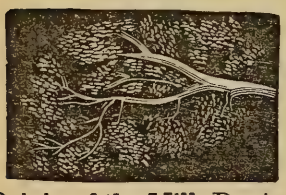
FIG. 94.



Section of Mammary Gland.

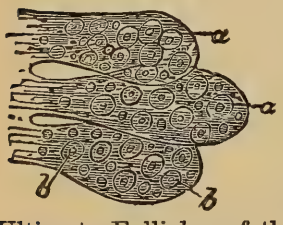
1, 1, Galactophorous Ducts; 2, 2, Lobuli.

FIG. 95.



Origin of the Milk Ducts.

FIG. 96.



Ultimate Follicles of the Mammary Glands.

a, *a*, the Secreting Cells; *b*, *b*, the Nuclei.

Inflammation of the Breast.

This affection is common, and frequently results in abscess. Various causes may produce it, such as a blow, exposure to cold or wet, great mental excitement, unnatural distention by an accumulation of milk, or too much pressure by corsets. It may occur at any period between early and advanced womanhood, but most commonly it does occur within a week or two of childbirth, and is the result of some obstruction in the flow of the milk, or change in its normal character. Such a change will be sure to occur if the milk is suffered to remain long in the breast; therefore, should the infant be unable relieve it at all, or insufficiently, artificial means must be taken to do so.

A simple and cheap form of breast-pump is made with a stout elastic bag with a glass mouthpiece, a wide-mouthed bottle sufficiently capacious to hold two quarts. This is dipped in hot water, and the mouth immediately applied to the breast; the heat will have rarefied the air within, which, as it cools, contracts and leaves a vacuum, causing suction, which draws the milk into the bottle. Some nurses have the art of drawing the breast with the mouth; and it is well to let them do so, as no instrument can effect the object so thoroughly.

Abscess in the Breast.

When there is an inflamed state of the tissues of the breast, there are shooting pains, and often febrile symptoms. The part will become hard and exhibit knotty protuberances, indicating the formation of an abscess. These symptoms will be succeeded by throbbing and a sensation of weight,—the skin gradually assuming a thin and red appearance, and becoming thinner until it finally breaks, and allows the escape of the matter.

Treatment.—When the premonitory symptoms of mammary abscess are observed, recourse should at once be had to remedial measures. Let the breast be well yet gently rubbed with a soft hand, into the palm of which is poured fresh olive or almond oil; the friction should be continued for about ten minutes, and repeated every four hours or so. Goose-grease and other fatty substances are recommended, but simple oil is best, the friction being the principal agent for good. Between the intervals of this the breast should be kept covered with a tepid-water dressing,—having over it oiled silk to prevent evaporation. Care must be taken during this treatment to keep the bowels gently open, and to keep under the febrile symptoms. A mammary abscess will frequently continue discharging for a considerable period, and, during this time, the patient should be supported by a nourishing, although light diet.

A warm bread-poultice is best for the abscess; it should be changed about every four hours, and covered with oiled silk. When the discharge has nearly ceased, simple tepid-water dressings may be substituted. The breast, during all this time, should be supported by a soft handkerchief tied round the neck. An application of collodion all over the part has sometimes been used; it forms a thin coat which, contracting as it dries, affords the necessary support, if the breast is not very large and heavy. If some amount of pressure is required, strips of strapping crossing each other will effect this object. After all danger of inflammation is over, a more generous diet may be allowed. Should the breast remain hard, friction with soap liniment should be resorted to. A drachm of compound tincture of iodine to each ounce will render it more effectual.

Sore Nipples.

Very painful and distressing cases of sore nipples frequently occur after childbirth. Sometimes they cannot be avoided, but frequently they arise from too great an anxiety on the part of the mother, who

is constantly meddling with them, applying the mouth of the child, and resorting to all sorts of expedients to draw them out. Nipple-shields, with India-rubber teats, may be readily procured, and should be used when the nipples are too sore and tender to bear the application of the infant's mouth. In this case the milk must be drawn from the breast by one of the contrivances above mentioned, and given to the child in a feeding-bottle.

Glycerine has been found a good application for chapped or otherwise sore nipples. It must be applied with a camel-hair brush, first wiping the part dry with a soft piece of linen. If obtained pure, there will be little or no smell in it to annoy either mother or child. Collodion is also useful, but it causes considerable smarting. If, as is sometimes the case, there be suppuration, warm bread-poultices must be applied, and after them tepid-water dressing. Infants, a few days after birth, sometimes have the breasts distended with a thick milky looking fluid; and youths just arriving at the age of puberty have hard and painful swellings about the nipples. In both cases warm fomentations only are required; the parts should not be pressed or rubbed; for the child, a little cold cream or simple ointment, after fomenting, is desirable.

Milk Fever.

An aggravated form of the excitement which takes place at the onset of lactation.

Causes.—The cause may be a cold, or over-heating the apartment, too stimulating a diet, or any obstruction to the flow of milk from the breast.

Symptoms.—Its first symptoms are increased heat of the system, preceded by shivering, and sometimes accompanied with vertigo and slight delirium. These are followed by severe headache, thirst, dry tongue, quick pulse, throbing of the temples, and intolerance of light.

Treatment.—Spare diet, perfect tranquillity, subdued light, cooling drinks, and saline aperient medicines; the head should be kept somewhat elevated, and bathed with cold water or evaporating lotions. If the symptoms should become worse in spite of this, apply half-a-dozen or more leeches to the head, and put the feet in a warm mustard bath. Most lying-in women have more or less of this fever, which is no doubt an effort of nature to rouse the hitherto dormant

mammary organs to secrete a proper quantity of milk. If, however, it is not checked, the arterial action runs too high, and no milk at all is secreted.

CONFINEMENT *(Parturition)*.

Every prudent woman, who has the power of doing so, will make all necessary preparations for an approaching *accouchement*, as the French term childbirth, or delivery.

Few women, who are near their confinement, are sufficiently cautious of exposing themselves to unnecessary fatigue and atmospheric changes. They will "keep about until the last," and it is well for them to do so, provided they take only gentle exercise, and avoid getting wet or chilled, or heated in crowded assemblies, and the like. Miscarriages, difficult labors, and frequently lasting injury to mother and child, if not the death of one or both, is not unfrequently the result of imprudence at this critical period. Therefore would we impress upon all our readers who are likely to become mothers, the duty which they owe to themselves, their friends, and their future offspring, of refraining, when *enciente*, as much as possible from the more exciting pleasures and laborious occupations of life, and of preparing for the pains and cares which will shortly come upon them.

Let all the preparations for the little stranger be made in good time, and the services of an experienced nurse engaged. Let the mother, or some female very near and dear, be at hand to aid and counsel, and, above all, to cheer and encourage the often sinking heart, not only at the actual period of the labor, but for some time previously. And let the mother in expectancy be treated with all possible love and gentleness. She may be fidgetty and whimsical,—what of that!—provided they do not run into outrageous extremes, let her very whims be indulged. She is frequently in a state of great nervous excitement,—her body may be racked with pain, and her mind unhinged. Let her be soothed and tenderly dealt with. She has that to go through, at which the strongest man might well tremble, and shrink aghast.

We will suppose that the inevitable hour has come, and that the labor-pains are regular, and that the work of delivery proceeds properly, although perhaps slowly. In due time—it may be in two hours, or four, or six, or even, in the case of a first child, twenty-four

hours—the infant is born, and treated according to the directions given in the management of infants. But we are getting on too fast, and must go back to explain what has been, or should have been, done to bring about the desired consummation of a safe delivery; and what is of yet more consequence, the safety of the mother and child, and the gradual recovery of the former from the shock which, under the most favorable circumstances, her system will receive. If she be a strong healthy woman, and no unusual complications arise to disturb the natural process, but little aid or interference may be required. There will be the usual warning symptoms: intermitting pains in the back, slight at first, but increasing in intensity. There will probably be a slight discharge of mucus, stained with blood, and perhaps also a considerable discharge of a clear fluid, popularly called "the waters." This is an albuminous liquid filling up the membrane in which the fœtus floats, and so preventing pressure. It sometimes does not escape until labor has actually commenced by the falling down of the child into the pelvis. When this takes place, the recumbent position should be assumed. Previous to this, it is best for the patient to sit upright or walk gently about, and so assist the action of the uterus.

When the labor-pains become very great, the patient should be placed on the bed, previously guarded by some waterproof material on her left side, and not far from the edge, so that needful assistance can be easily rendered. She should have a tightly-rolled pillow placed between her knees. If there is no unnatural obstruction to the delivery, it is best left to nature. Should the patient in the struggle become very faint and weak, a little brandy and water may be administered at short intervals, but this must be stopped as soon as the labor is over, or inflammatory action may ensue.

As soon as the child is born, and the umbilical cord,—or, as it is commonly called, the navel-string,—by which it is attached to the womb, has been tied and cut, a broad bandage or towel should be passed round the body of the mother, so as to cover the hips, drawn tightly, and pinned or tied, so as to sustain a pressure upon the womb, and stimulate the vessels to return to their normal condition. Before this is done, however, it will be best to pull that part of the above-named cord which remains attached to the uterus very gently, and by this means to accomplish if possible the removal of the placenta, commonly called the after-birth, which sometimes comes away with the child, or immediately after, and is sometimes only

removed with great difficulty. If, at the expiration of a couple of hours or so, this still remains in the womb, where it will cause irritation, the hand of the nurse or medical man, previously well oiled, must be carefully passed in, so as to grasp, and, without breaking it, to detach it gently from its adhesion, and bring it away, waiting to complete the process until an after-pain comes on. Generally the natural expulsion, or the artificial removal, of the placenta is attended with hæmorrhage, sometimes to a frightful extent. For directions how to proceed in this case, see article on *Flooding.*

For at least six hours after labor, the patient should be disturbed as little as may be. We have seen fussy nurses very desirous of making "missus" comfortable, and begin to put things to rights about her, when she, poor soul! only wants perfect rest and quiet. Let her have it. And if the pulse is thin and feeble, and the cheeks are colorless, and the breathing scarcely noticeable, so that life seems almost ebbing away, put a little, a very little, brandy and water, warm and sweet, between her lips now and then; but stop instantly if it produces flushing or restlessness; and do not give it at all unless there seems urgent necessity for a stimulant. At the expiration of the above time, if a revival has taken place, soiled bed-clothes and body-linen may be changed; but all this should be done very carefully and gently, or the fatigue may occasion a relapse. If the after-pains continue severe at the expiration of the above time, an anodyne draught may be given. It may be composed of from twenty to thirty grains of tincture of opium, or a quarter of a grain of morphine, in an ounce of plain or spearmint water.

For eight or more days after labor, the recumbent position should be strictly maintained; and the same rule holds good after a miscarriage. Some women feel so well and strong in a day or two, that they will sit up, and sometimes even get out of bed, and make themselves useful in the house. We have seen a woman at the wash-tub three days after she had been confined; and we have heard of females undergoing the pains of labor under a hedge by the roadside, and in a few hours proceeding on their journey with their babes at their breasts. But these women were semi or entire barbarians; they had not been delicately nurtured. With the immense advantages, we must also take some of the disadvantages of civilization, and those who give birth to children surrounded by all its comforts and luxuries, must not attempt to emulate the Indian squaw. If they do, they will inevitably suffer for their temerity.

Getting about too early after childbirth is, perhaps, the most fruitful of all sources of uterine disease. The consequences may or may not show themselves at once, but whether or no, bad consequences there most likely will be; therefore we warn all mothers to keep their beds long enough; but little exertion should be made until the end of the first fortnight. If there is a necessity for getting about earlier, of course it must be done, for necessity has no law; but unless there is, the risk should not be run. Delicate women especially do wrong to attempt it, and the strong will be likely to render themselves weak by the practice.

ABORTION, OR MISCARRIAGE.

The premature expulsion of the fœtus from the womb,—that is, before the seventh month. After that period, if delivery occurs before the ninth month, it is called premature labor.

Causes.—A sudden shock to the system by a fall or a fright; straining, or over-reaching; the administration of strong purgatives or emetics; excessive indulgence in venery, or aught which may tend to debilitate the system; malformation of the generative organs; fevers and severe inflammations; syphilis or constitutional disease of any kind; the growth of polypi or tumors in the cavity of the uterus, or adhesion to the surrounding viscera; too great contractibility of the uterine fibres and blood-vessels. Most frequently, perhaps, it is a diseased condition of the fœtus itself, which, wanting the elements of growth and vitality, is rejected as a useless and troublesome incumbrance. Two classes of females, very different in constitution and appearance, are more than commonly liable to abortion, namely, those of a voluptuous and plethoric habit, and those of a weak and irritable frame. Those who continue to suckle after conception has again taken place render themselves liable to it, because a certain amount of nutriment required by the fœtus goes to the formation of the lacteal fluid.

Miscarriage is generally attended with much pain. It weakens the system, and often severely tries the constitution of the sufferer, whose liability to the accident increases with each occurrence. The periods at which it is most likely to take place are said to be about a month after conception, again in twelve weeks, and again in the seventh month,—the liability increasing in those stages which correspond with the periods of menstruation. Some women invariably

miscarry at a certain stage; and thus, although often in the way to become mothers, are never blessed with offspring.

By this it will be sufficiently plain that pregnant women ought to avoid all violent exercises of the body, strong mental excitement, over-indulgence of sensual appetites, exposure to wet, or any extremes of weather, or aught which may tend to constitutional derangement of whatever kind; and those who have once aborted should be doubly careful on account of their greater liability.

Symptoms.—These vary considerably, according to the more or less advanced stage of pregnancy, and state and condition of the patient; but usually she feels at first slight pains in the loins, and parts about the womb. There is a sense of bearing down, a frequent desire to make water, or to evacuate the bowels, and a feverish state of the system generally. A discharge of blood commonly follows, sometimes in clots, at others in gushes, at longer or shorter intervals; and this will continue until the fœtus is expelled. As the patient can not be considered out of danger until relieved of the ovum, the discharge ought to be carefully watched, and preserved for the examination of the medical man, should he not be present during its progress, which is much to be preferred.

Treatment.—The first object, when the premonitory symptoms above mentioned set in, is, if possible, to *prevent* abortion. To this end the patient should at once assume a recumbent position, and on no account be suffered to move more than may be absolutely necessary. For a few days, use only cold drinks, and at bedtime take a pill composed of one grain of opium and two grains of sugar of lead.

If there is much heat in the abdomen, cloths wet with vinegar and water, in equal proportions, should be applied thereto, and removed as often as they get warm. When the hæmorrhage becomes at all profuse, all hopes of prevention are at an end, and the efforts should be directed to relieve pain, prevent utter exhaustion of strength, and finally to remove, as quickly as may be, the ovum from the womb. To effect the latter object, mechanical means are sometimes resorted to, but only one thoroughly acquainted with the anatomy of the parts should attempt this. As the flooding proceeds, the patient should be kept as cool as possible; she should be exposed to, and suffered to breathe, cold air; acidulated drinks should be administered; if ice can be obtained, let it be used to lower their temperature. Should fainting ensue from loss of blood, cordials

may be given, but not hastily, or frequently; a teaspoonful of brandy, or fifteen drops of aromatic spirits of ammonia, in half a wineglassful of cold water, is the best stimulant for the purpose. When the discharge is very profuse, lint, wadding, or a piece of sponge, dipped in a solution of alum, and then in olive-oil, may be introduced into the vagina, or an injection of the same gently thrown up by means of a syringe; or a decoction of oak-bark may be used for the same purpose.

Should these means fail to check the hæmorrhage, make up eighteen grains of sugar of lead into twelve pills, with crumb of bread, and give one every two hours, with a draught of vinegar and water, or dilute sulphuric acid, fifteen drops in half a wineglass of water being a sufficient dose. Opiates may be given with advantage when the pain is very severe, especially before the flooding comes on, or after it has continued too long. Suppositories, consisting of about a grain of powdered opium, made up into a softish mass, with a few grains of powdered gum, or extract of henbane, are also useful. These latter may be introduced when miscarriage is likely to ensue. With rest and proper care they will sometimes prevent it.

The best preventives of miscarriage are the frequent use of the cold hip-bath, and sponging the lower part of the belly with cold vinegar and water; strict attention to diet, and avoiding all violent purging medicines; moderate gentle exercise, and entire abstinence from sexual intercourse during the first months of pregnancy.

We can say nothing here about abortions voluntarily produced, except to warn women of the folly and danger of resorting to unprincipled empirics, or the use of powerful drugs, to hide the consequences of an unlawful gratification of their passions. Death has frequently resulted from the employment of such means as are necessary to produce abortion, and far better is it to bear the shame and disgrace of being the mother of illegitimate offspring than to incur the risk and sin of being possibly the destroyer of self, as well as of the embryo of a human being, over which the parental instinct alone ought to stimulate to tender care and watchfulness.

ANÆMIA.

This is a condition of the constitution in which there is a deficiency of the red globules, or coloring matter, in the blood. It is marked

by extreme pallor in those parts, such as the lips, which are generally suffused; and is not uncommon in young females of a weak or scrofulous habit. It appears to arise from a deficiency of vital energy in the system, either constitutional or brought on by want of nourishment, breathing impure air, or great loss of blood. In any case a cure may be effected by good generous diet, pure air, moderate exercise, and strengthening medicines.

Treatment.—Any of the various preparations of iron may be taken in combination, if the appetite be bad, with some bitter tonic, such as infusion of gentian, with a little quinine. Should there be much emaciation, cod-liver oil, taken in orange wine, will be of service. The pores of the skin should be kept open by tepid sponging, and the bowels moderately so by a rhubarb or colocynth pill now and then. Strong purgatives should be avoided, and especially salines. In young females the absence of the monthly discharge need cause no uneasiness; with returning strength that will most likely return. Should it not do so, however, when this treatment has been persisted in for a time, and should the pallor, languor, sleeplessness, headache, confined bowels, swelling of the feet, &c., which generally distinguish anæmia, continue, a medical man ought to be consulted, as it is likely there may be consumption, or other organic disease, at the root of the mischief.

BARRENNESS.

Barrenness is the defect of power in the female to produce offspring.

Causes.—It is caused sometimes by want of tone or strength in the system; nervous debility; sometimes the result of malformation of structure in some part of the generative organs; and sometimes by functional disorders from local or constitutional causes.

Symptoms.—Want of issue; and, in married women, frequently continued ill health.

Treatment.—Cold bathing, or dashing cold water on the loins daily; general tonics, or strengtheners to the system; electricity or galvanism applied locally. A milk and vegetable diet is recommended, and abstinence from sexual indulgence for a time. Take plenty of exercise early in the morning in the open air, and take the following:—

Compound Aloetic Pill,.....2 scruples.
Compound Rhubarb Pill,.....2 scruples.
Sulphate of Iron, ...2 scruples.
Extract of Henbane,.....2 scruples.

Mix, and divide into thirty-two pills. Take one every night, and the following in the daytime:—

Compound Tincture of Valerian,.....½ ounce.
Compound Tincture of Lavender,..... .....1 ounce.
Aromatic Spirits of Ammonia, ...½ ounce.

Mix, and take a teaspoonful twice a day in two table-spoonfuls of infusion of cascarilla.

GREEN SICKNESS.

This disease has obtained its name from the pale and greenish cast of the skin of the patient. It is one of the forms of anæmia, and chiefly affects young girls, although adult and even married women, and young delicate males are subject to it.

Causes.—The disease appears to arise from a defect in the blood of red particles, and other solid constituents, and this is caused by defective assimilation. Those young persons of sedentary habits, or who work in crowded factories or shops, or who live in underground kitchens, and like places, are particularly subject to it.

Symptoms.—In addition to the pallor of the skin, which is common to all the forms of anæmia, this has some peculiar symptoms, such as hysterical paroxysms, and extreme nervousness, pain in the side, swelling of the ankles, headache recurring at certain periods; there is also frequently depraved appetite and a disinclination for wholesome food altogether. If the case is long neglected, the symptoms become greatly exaggerated, the secretions are unhealthy in character, and deficient in quantity; the limbs swell, the pains in the head and face are more severe, and so weak is the patient that every exertion, even the slightest, is laborious; the depraved appetite becomes more remarkable—cinders, chalk, slate-pencil, and articles equally unfit for eating, are eagerly sought for, and masticated with avidity.

Treatment.—Change of air, tonics, and the course of treatment prescribed under the head of *Anæmia*, is the best in such cases.

Exercise, fresh air, and nourishing diet, are the grand restoratives. Iron is the best tonic, alone or in combination with quinine. It should be given in the least nauseous form, and at least one hour before meals.

HYSTERICS (*Hysteria*).

A nervous affection, chiefly seen in females, and generally connected with uterine irregularities. The age at which there is the greatest proneness to hysteria, is from that of puberty to the fiftieth year, that is, from the accession to the cessation of the menstrual life,—at the beginning and end of which it is more frequent and marked than at any other period. Single women, and the married who do not bear children, are most subject to it, although it sometimes occurs at the early period of pregnancy and immediately after childbirth. Persons of studious and sedentary habits, and of scrofulous and weakly constitutions, are especially likely to be the subjects of hysteria, as are indolent and plethoric persons, and those debilitated by disease or excesses of any kind. It may be excited by excessive evacuations, suppression of the natural secretions, strong mental emotions, or sympathy with others so affected. It is a curious circumstance connected with this affection that it simulates almost every disease to which humanity is liable.

Symptoms.—An attack generally comes on with a sensation of choking. It seems as if a ball were rising in the throat, and threatening to stop the passage of the air; then the trunk and limbs become convulsed, so much so that an apparently feeble woman will require three or four strong persons to restrain her from injuring herself; then follows the hysterical sobbing and crying, with alternate fits of laughter. Generally the head is thrown back, the face is flushed, the eyelids closed and tremulous; the nostrils distended, and the mouth firmly shut. There is a strong movement in the throat which is projected forward, and a wild throwing about of the arms and hands, with sometimes a tearing of the hair, rending of the clothes, catching at the throat, and attempts to bite those who impose a necessary restraint.

A fit of hysteria may last for a few minutes only, or for several hours, or even days; persons have died under such an affliction. It may generally be distinguished from epilepsy by the absence of foaming at the mouth, which is nearly always present in that disease,

and also by the peculiar twinkling of the eyelids, which is a distinguishing symptom of great value, and a sign of safety. In epilepsy, too, there is complete insensibility, not so in hysteria; the patient retains partial consciousness; hence it behoves those about her to be cautious what they say. If any remedies are suggested of which she is likely to have a dread, her recovery may be greatly retarded thereby. In epilepsy there is laborious or suspended respiration, a dark livid complexion, a protruding and bleeding tongue; rolling or staring and projected eyeballs, and a frightful expression of the countenance. Not so in hysteria; the cheeks are usually red, and the eyes, if not hidden by the closed eyelids, are bright and at rest; the sobbing, sighing, short cries, and laughter, too, are characteristic of the latter affection. We point out these distinctions that no unnecessary alarm may be felt during a fit of hysteria, which is seldom attended with ultimate danger either to mind or body, although the symptoms are sufficiently distressing to cause some anxiety.

Treatment.—First, prevent the patient, if violent, from injuring herself. Confine her hands, by wrapping tightly round her a sheet or blanket. The dress should be loosened, especially round the throat; and the face freely exposed to fresh air, and both that and the head well washed with cold water. If she can and will swallow, an ounce of camphor-mixture, with a teaspoonful of ether, sal volatile, tincture of assafœtida, or valerian, may be administered. Strong liquid ammonia may be applied to the nostrils; and if the fit is of long duration, an enema injected, consisting of spirits of turpentine, castor-oil, and tincture of assafœtida, of each half an ounce, in half pint of gruel. What is required is a strong stimulus to the nervous system; therefore, dashing cold water on the face, and hot applications to the spine, are likely to be of service. Carlisle recommends that a polished piece of steel, held in boiling water for a minute or two, be passed down the back over a silk handkerchief. This has been found to prevent the recurrence of the paroxysm, which has before been periodic,—by which it would seem that the patient has some power of controlling the symptoms, when a sufficiently strong stimulus is applied, to enable or induce her to exercise it.

The patient's mind, during the intermissions of the attack, should be kept as tranquil as possible, and a tendency to all irregular habits or excesses held in check. If plethoric, there should be spare diet; if scrofulous and weakly, good nourishing food and tonic medicines,

particularly some form of iron, the shower-bath, regular exercise, and cheerful company. Antispasmodics, and remedies which have a gently stimulating effect, will frequently relieve the sleeplessness complained of by hysterical patients better than opiates and other narcotics. In such cases Dr. Graves recommends pills composed of a grain of musk and two or three grains of assafœtida, to be taken two or three times a day.

PREMATURE BIRTH.

A birth which occurs between the seventh and ninth month of pregnancy is generally so called. It is a contingency to be most carefully guarded against, for a child born before its regular time can scarcely be expected to have the strength and vigor of one who attains its full development in the womb. Nevertheless, cases have been known in which the early-born child has grown up hearty and strong, and there are also cases in which, for the mother's sake, a premature labor is desirable, as giving the only possible chance of producing living offspring at all. There may be an unusually small pelvic cavity, owing to some malformation, or narrowing of the passage through which the fœtus has to pass, so that it can only do so by an operation, involving death to the child and great danger to the mother. Of course, none but a physician should be entrusted with the delicate task of bringing about a premature labor, and only such a sad necessity as is here hinted at should authorize him to attempt it.

PUERPERAL FEVER (*Childbed Fever*).

This is one of the most fatal diseases which attack lying-in women. It is a fever of a very high character, arising from inflammation of the serous membrane, and often of the womb itself, and of its veins and absorbents. It runs a very rapid course, and is commonly fatal. It assumes the character of an epidemic, and frequently causes great mortality in lying-in hospitals. Whether it is really contagious or not is yet an open question. The mere probability that it may be so should render persons extremely cautious in their intercourse with those who are suffering under it.

Symptoms.—There is usually an anxious countenance, sickness, hurried respiration, a furred tongue, and a stoppage of the secretions, especially of the milk. When these symptoms occur soon

after childbirth, no attempt should be made at domestic treatment. Let the medical man be summoned immediately, if he be not already in attendance.

PUERPERAL CONVULSIONS.

These sometimes come on after labor has commenced, or immediately on its completion; and, therefore, while the patient is in a state of great suffering and prostration. The hysterical form is the most easily dealt with,—merely dash a little cold water in the face, and give a teaspoonful of sal volatile in water, as in common hysteria.

The epileptic and apoplectic forms are both extremely dangerous. Blood will have to be taken either from the arm or the temporal artery, and strong mercurial purgatives adminstered; the hair must be cut short, and a blister applied to the nape of the neck, and cold lotions to the head. If by these means the convulsions can be subdued, and the delivery, if it has not taken place, be accomplished, there may be a chance for the patient. Care must be taken in the apoplectic form not to give opium, which will probably be required in the epileptic. Generally, however, a medical man will be present at such a crisis; if not, let him be summoned instantly.

PUERPERAL MANIA, OR NERVOUSNESS.

This disease frequently attacks women either a little before, during, or shortly after childbirth, and sometimes during nursing.

Symptoms.—Great nervous irritation; the face is commonly pallid, the eye troubled, the tongue white, and skin hot; the mind wanders, and conduct very irregular.

Treatment.—Give a purge of senna and salts, and keep the bowels regular by the compound rhubarb pill. Keep the room darkened, and let the patient be kept quiet, and free from the interruption of friends. If she is restless at night, give her an anodyne, such as twenty drops of hartshorn, or one grain of opium in a solid pill.

WHITE LEG, OR MILK LEG.

This troublesome disorder is apt to follow childbirth in some constitutions, and is of long duration.

Symptoms.—It may commence two or three days after delivery, or it may not for some weeks. There is a little fever, and the parts

about the thigh and groin feel hot, stiff, and painful; swelling commences, which extends over the whole limb, which does not, however, change color, except it be paler or whiter than natural. At this time the pain is usually very severe. After a time the symptoms abate a little, but the limb remains for a long time swollen, and comparatively useless.

Treatment.—Cooling purgatives, such as magnesia, and salts and senna, and warm fomentations and poultices. Judicious bandaging will be of great service.

ITCHING OF THE EXTERNAL GENITAL ORGANS.

The delicate internal lining of the external organs of generation sometimes becomes the seat of a most distressing itching, to relieve which, the parts may be so irritated by friction as to become violently inflamed. Leeches have been used sometimes with benefit; so has the application of cold, such as ice-water, or even lumps of ice introduced into the vagina. When there is an eruption like that in the sore mouth of children, injections of a strong solution of borax have been very useful; thick starch water, with a solution of sugar of lead, injected into the vagina, and retained for an hour or two, have been also of great utility in a few cases under our care. This irritation sometimes arises from disease of the womb, pregnancy, the presence of a stone in the bladder, or worms in the bowels. The original affection must first be attended to in these cases, as elsewhere directed.

PART III.

Children and Their Diseases

THE MANAGEMENT OF NEW-BORN INFANTS.

In the majority of cases, the child begins to breathe and cry as soon as it is ushered into the world. This, however, is not always the case. Many children manifest no signs of animation when born, who may, nevertheless, be re-excited by prompt and judicious management. When this state of apparent death depends on the apoplectic condition of the brain, the infant's countenance exhibits a livid or deep red and bloated appearance; the eyes are prominent, and the surface of the body warm and reddish; sometimes the body is flaccid, and the navel-string has ceased to pulsate. Everything, in such a case, depends on the speedy removal of the congested condition of the brain. The umbilical cord should be immediately cut, and an effort made to stripe some blood from it with the fingers. When the cord pulsates vigorously, nothing more is generally required for setting the vital functions in play than to divide the cord and suffer the blood to flow freely from it. The child's head should be supported in an elevated position, cool water applied to the scalp, and the inferior parts of its body wrapped in warm flannel. An effort should be made to excite the respiratory functions by artificial inflation of the lungs and compression of the thorax with the hands. In inflating the lungs, a silk handkerchief folded double, or a fine napkin, should be laid over the mouth of the infant; the nurse should then apply her mouth to that of the babe, at the same time closing its nostrils, and endeavor, by a moderate but uniform force of insufflation, to fill its lungs with air. The covering of the mouth is recommended as a means of avoiding fatal rupture of the pulmo

nary air-cells. It is proper to observe that when these manifestations of cephalic congestion and general fullness are not present, that is, when the face and body present a pale and shrunken appearance, blood can not be abstracted without much injury to the child.

Some infants remain for a minute or two after birth without any, or but a few respiratory efforts, although they will open their eyes and move their extremities with sufficient activity. A few drops of cold water sprinkled on the chest or abdomen will instantly cause them to breathe and cry out lustily. The main point of caution, in cases of this kind, is to avoid tying the cord until its pulsation has ceased, or has become quite feeble. In all instances where respiration does not ensue immediately after birth, or is any wise embarrassed, prompt attention should be paid to the removal of the viscid mucus which is usually lodged in the mouth, fauces, and larynx of new-born infants. A finger surrounded with a piece of soft linen should be carefully introduced into the mouth, and the tenacious slime brought away.

Infants are sometimes born in a state of asphyxia, without any signs of congestion or vascular fullness,—the surface of the body being pale, and the face free from puffiness, which occurs in apoplectic or congestive cases. If, in such cases, the cord continues to pulsate, it must on no account be divided until pulsation has ceased. The mouth should be immediately cleared in the manner just mentioned, and a little cold spirits, or water, dashed on the pit of the stomach. So long as the cord beats, some stimulant, such as brandy, spirits of camphor, or ether, may be applied to the lips and nostrils. It will also be proper to rub the body and extremities, gently, with dry warm flannels. When the pulsation of the cord has ceased, and the child still continues in this state, the cord must be divided, and the infant wrapped in dry and heated flannel, which is better than the use of the warm bath. Infants in this condition should not be hastily abandoned. Thirty minutes and even a longer period may elapse before the child begins to respire.

In all instances where resuscitation has been effected from a state of asphyxia, it is of the utmost consequence to suffer the infant to lie perfectly at rest, for several hours, before it is subjected to the agitation and fatigue of washing and dressing. Infants born between the seventh and eighth months, generally remain in a somnolent state for several weeks, and ought to be as little disturbed by washing and dressing, or feeding, as possible.

Occasionally feeble infants suddenly sink into a state of syncope, or apparent death, after everything seemed going on well. This deathlike condition usually continues a few minutes, and then gradually passes off, leaving the infant in a languid and fretful state. This affection is probably the result of some intestinal irritation. During the paroxysm, efforts must be made to re-excite the vital power by wrapping the child's body in a piece of thick flannel wrung out in hot whiskey. A drop of ether, or spirits of camphor, should be applied to the nostrils and lips; and weak sinapisms laid to the soles of the feet.

The general rule as to tying the cord, with the exceptions above noticed, is, that it is the safest to delay the tying of it, until it has entirely ceased to pulsate.

THE MECONIUM.

The fæcal matter formed in the bowels of infants, before birth, is called *meconium*. Its timely removal is an object of no small importance. Nature has furnished the appropriate purgative for this purpose, in the first milk, or *colustrum*, secreted in the maternal breasts. The small portion of fluid which the child usually obtains at the breast, during the first nine or ten hours, possesses a decidedly purgative character, and generally causes the entire evacuation of the meconial matter. But instead of putting the infant early to the breast, and waiting for the operation of this congenial laxative, the almost universal custom is to introduce some artificial purgative into the stomach, such as castor-oil or syrup of rhubarb, or sweet oil, or molasses. Nothing can be more prejudicial to the infant's health than this. Apply the infant to its mother's breast before the proper milk is secreted, and, in nine cases out of ten, adequate purgation will be produced without any irritation of the system. It is only when the colustrum fails that artificial purgatives should be resorted to; and, for this purpose, a teaspoonful of molasses diluted with a small portion of warm water, or a teaspoonful of castor-oil, should be given. Where there is great torpor of the bowels, two grains of ipecacuanha, with five grains of powdered rhubarb, may be given every hour until free evacuations are produced. The warm bath will, in general, promote the operation of the purge,—especially placing the lower part of the body in warm water, and making cold applications to the head.

WASHING AND DRESSING.

When the infant is born, and the function of breathing is well established, it must be carefully separated from the mother, and secundines, wrapped in a soft piece of flannel, its mouth and nose being left uncovered, and handed to the nurse. The washing of the infant should, if possible, be performed in an adjoining room to that in which the delivery has taken place, as nurses in general make much noise and bustle about it. The water used for washing healthy and vigorous infants should be lukewarm; but for very weak ones, water of a higher temperature will be necessary. The skin of the infant at birth is covered with a whitish cheesy kind of substance, which is most abundant in the folds of the joints, the groins, and armpits. It is particularly important to the health and comfort of the infant that every particle of this substance should be removed; but as it is wholly insoluble in water, and is but very slightly acted on by soap, we must employ lard, or fresh butter, or the yolk of eggs, to render it soluble. Before any water is applied to the infant's body, the skin should be smeared and gently rubbed with one of these substances, after which the whole may be easily washed off with warm water and mild soap. When the infant is delicate or extremely feeble, the addition of a teaspoonful of wine or brandy to the water in which it is washed may be of great service; but unless such a special reason for stimulating applications be present, plain water is decidedly the most proper. After the child has been thoroughly washed, it should be well dried and immediately dressed. Throughout the whole period of infancy, the child's body should be washed every morning and evening. The practice of dusting fine starch or hair-powder over the body, with the view of keeping the skin dry and soft, is improper. On the appearance of any excoriations, a little finely powdered starch may be dusted over the affected part with benefit.

THE DRESS.

The first thing to be done in dressing the infant is to fix the remains of the navel-string, or umbilical cord, in a proper manner. The nurse takes a soft piece of linen, about two inches square, cuts a small circular hole in its centre, through which she brings the remaining part of the navel-cord, and then envelops it. She next turns it toward the chest of the infant, and places a small flannel bandage or roller over it and round the body. This bandage should

be a simple strip of flannel, about four inches wide, which should be worn sufficiently loose to admit of the easy introduction of a finger under it. Almost every part of the infant's dress should open on the back, and be fastened by tapes or buttons; pins ought to be entirely laid aside. The clothing should be warm, light, and loose. The lightest and softest kinds of flannel should be worn in winter; in warm seasons muslin may be substituted for the flannel; but common sense dictates the propriety of constantly accommodating the clothing to the varying state of the weather. The infant should never be suffered to sleep in the flannel which has been worn during the day; and in the morning it ought to be again changed. During the first eight or nine months the child's clothes should extend considerably below the feet, in order that the lower parts of the body may be duly protected against the cold. After this age, however, the feet should be entirely unincumbered. During cold weather, fine woollen stockings, sufficiently wide to be easily put on, should be worn; but in warm weather, light soft flannel socks will suffice. The shoes should be made of light pliable materials, and sufficiently large to prevent all constrant of the feet. In very young infants, thin woollen socks will protect the feet sufficiently during warm weather; but when they are about learning to walk it is best to have the feet protected against accidents by soft light shoes. It is highly important that the child should be kept as dry as possible. Its under-clothes should be immediately removed when wet, and replaced by dry and clean ones.

THE FOOD OF INFANTS.

With healthy infants, several hours at least should be suffered to pass, immediately after birth, before any alimentary substances are introduced into the stomach. A few teaspoonfuls of some very bland and weak fluid might not be detrimental, but the usual practice of filling the stomach to distention with gruel, or pulverized biscuit dissolved in water, or some such preparation, is exceedingly to be deprecated. In nine cases out of ten, perhaps, the gripings, flatulency, diarrhœa, and colic, which so frequently harass infants during the first six months of their existence after birth, are the results of indigestion, brought on by errors in diet. And then, to relieve these symptoms, nurses employ catmint tea, annise-seed tea, paregoric, or some other pestiferous palliative or nostrum; and thus, an additional

source of stomach-derangement, or indigestion, is brought into operation on the unfortunate babe. The infant's digestive functions are often injured also by the exhibition of active purgatives. There is no substance in nature, nor can there be anything prepared by art, which forms so congenial and wholesome a nourishment to the young babe as its mother's milk. It is almost superfluous to remark that nature manifestly intended this fluid as its sole nutriment at this early stage of life, and until the primary teeth make their appearance. Should there exist any inability of suckling the child, a mixture of two parts of fresh cow's milk and one part of warm water approaches nearer to the nature of human milk than anything else that can conveniently be procured. After the first teeth have come out, small portions of barley-water, thinly prepared arrow-root, or a mixture of equal parts of cow's milk and water, may be given two or three times daily, in addition to the nourishment drawn from the breasts. The food should be introduced into the stomach as gradually as possible, and, we must again repeat the caution, care should be taken not to overload the stomach. After the seventh month, small portions of the food just mentioned should be given at regular periods, three or four times daily. The practice of dandling or jolting infants soon after they have taken nourishment is decidedly improper. The child should be left quiet for at least thirty or forty minutes after having received its food.

THE EMPLOYMENT OF NURSES.

Mothers are not always in a condition which enables them to suckle their own infants. This is unfortunate, for it can not be doubted that the mother's milk is, in general, better adapted to the constitutional temperament of her offspring than that furnished by others.

No woman who has led a debauched course of life, even though reformed, can be regarded as a perfectly safe nurse. Females of this description are apt to have their system contaminated with some morbid taint which may give an unwholesome quality to the milk. The nurse should be of sound and vigorous constitution, and the age of the milk should not vary much from that of the infant itself, up to the fourth month. After that period such a relation between the ages of the milk and child is not of much importance. A nurse who has but one good breast should never be selected, for a babe suckled

by one breast only is apt to contract the habit of squinting. To avoid this, the babe should be nourished alternately from both breasts. Particular regard should be had to the temper and moral habits of the nurse. It is hardly necessary to observe that an irritable, passionate, and sour-tempered female is but ill suited for the important duty of nursing.

ARTIFICIAL NURSING.

Under judicious management, infants will, in general, experience no inconvenience from a course of artificial nursing; and, as a general rule, this mode of nourishing children is preferable to the employment of a wet-nurse whose competency and fitness for the duty are equivocal. Very young, and peculiarly delicate and feeble infants seldom do well when raised by hand; and when, upon trial, the slightest kinds of artificial aliment are found to disorder the alimentary canal, the life of the infant will very probably depend upon a fresh and wholesome breast being instantly procured for it. When artificial nourishment must be resorted to, a mixture of two parts of fresh cow's milk, and one part of warm water, with a very small portion of sugar, will, in general, answer the purpose better than any other kind of food that can be contrived. Thin barley-water, or a very liquid preparation of arrow-root, will sometimes be useful as a change of nourishment, where, from acidity in the stomach, the milk curdles and causes griping. The sucking-bottle is decidedly the best mode of feeding the child, but particular care should be taken to keep it always perfectly clean and sweet. It should be well washed, both inside and outside, with hot water every morning and evening.

Children who are entirely nursed by artificial diet should be restricted to the use of the milk and water mixture already mentioned, until several teeth have made their appearance. After the third month, however, the proportion of milk should be increased to three parts of milk and one part of water. After the first teeth appear, grated hard biscuit dissolved in warm water, oatmeal gruel, liquid preparations of arrow-root or sago, milk thickened with flour, and thin pap, may be allowed in moderate quantities. When these preparations do not agree with the child's stomach, they should be mixed with an equal portion of weak chicken or beef broth, clear and well freed from fat. With some children, no form in which cow's milk

can be given will agree with the stomach. In such cases, farinaceous decoctions, mixed with a small portion of cream, are generally digested with ease. Thin oatmeal gruel, or rice flour boiled in water, with the addition of a teaspoonful of cream to every gill of liquid preparation will answer very well. All solid animal food should be withheld until the dog-teeth have first made their appearance. The animal food given to young children should be plainly roasted or boiled. Fried and broiled meats, and all food heated a second time should be avoided. Those children who eat least animal food, will, in general, be found the most healthy. Soft-boiled eggs form one of the most appropriate articles of food for children after the first teeth have come out. As a general rule, from three to four hours may be regarded as a suitable interval between the meals of the child; if it requires nourishment between the regular meals, small portions of liquid aliment should be used. When solid animal food forms a part of the diet of children, it should be taken at noon or in the forenoon. Pure water, with or without small portions of milk, constitutes the best drink for children. The practice of allowing them a little wine, spirits, or malt liquors, is decidedly reprehensible. Indulgence in the use of cakes and candies is a copious source of disease during childhood. Dried fruits preserved with sugar, and fruits preserved with their skins, are peculiarly indigestible. Even two or three raisins have been known to produce the most serious and protracted disorder of the intestinal canal in infants. Apples, peaches, and apricots, when perfectly ripe and mellow, may be reasonably allowed to children in moderate portions, when the stomach and bowels are in good order. Nothing, however, is more prejudicial than unripe fruits. Stewed or roasted fruits may be allowed occasionally, provided they are not very sour.

EXERCISE.

It is of great importance to allow the infant the freest possible use of the limbs. Muscular exertion is indispensable to the preservation of its health and the due development of its powers, and it should be an especial object of care to allow it entire freedom of motion for several hours daily, by avoiding all modes of dress and position tending to restrain the free use of its limbs. With this view, the infant should be taken from its bed, laid upon its back on a soft mattress or any other level and slightly resisting surface, and

divested of everything calculated to restrain the motion of its limbs and body. This should be repeated two or three times daily, and in warm weather the air should be freely admitted.

Beside the exercise which infants thus obtain by their own muscular efforts, passive exercise should be regularly afforded them by carrying in the arms or riding in an easy carriage. The use of this kind of motion should be commenced as early as the second or third day after birth, provided the infant be not unusually feeble. At first, that is, a few days after birth, the infant should be taken from its cradle two or three times daily, laid on its back upon a pillow, and carried gently about the chamber. After the third or fourth week, the child may be carried, in a reclining posture, on the arm of a careful nurse, in such a way as to afford entire support to the body and head. This may be done by reclining the infant upon the forearm, the hand embracing the upper and posterior part of its thigh, whilst its body and head are supported by resting against the breast and arm of the nurse. When held in this way, it may be gently moved from side to side, or up and down, while it is carefully carried through a well-ventilated room. When the child has acquired a sufficient degree of strength to maintain itself in a sitting posture—which is seldom before the completion of the third month—it may be carried about in this posture for a short time, twice or thrice daily, provided the spine and head be supported by the nurse, an aid which can seldom be prudently dispensed with before the child is six or seven months old. All rapid, whirling, and concussive motions are calculated to injure the delicate organization of infants; therefore, running or jumping with an infant in the arms, descending rapidly a flight of stairs, or whirling round, ought to be rigidly forbidden. The practice of supporting very young infants in a sitting posture on the knee, and jolting them violently, can not be too severely censured. These violent agitations powerfully affect the delicate organization of infants, and may be productive of spasms, epilepsy, and apoplectic fits. To gentle rocking of infants in the cradle there seems no great objection, but rapid or long-continued motion of this kind should be avoided. Riding in a carriage, properly constructed, is an excellent mode of affording suitable exercise to infants. The body of the carriage should be long enough to permit the infant to lie down at full length, and the sides sufficiently high to prevent it falling or rolling out. The wheels should be low, and the carriage should be made to move at

a moderate and equal pace over smooth ground. Very young infants should be laid down in the carriage, on a pillow, or a small and soft mattress, with the head slightly elevated, and so confined at the sides as to prevent the body rolling when the carriage is put in motion. After the child has acquired some degree of strength, it should be placed in a semi-recumbent posture, with its head and back well supported by pillows.

When the infant has acquired sufficient strength to support itself in the sitting posture, it should be frequently set down on a soft carpet, and surrounded with its toys. When left to the free use of its limbs, in these circumstances, it will soon learn to creep,—an exercise which should always be freely allowed to it. If the weather is serene, and the ground perfectly dry, the child may be carried out and placed on a grass plat, where it can range about in all directions. If occasionally supported under the arms, it will easily learn to stand erect, but it should never be raised up or led, by one arm only. After children have acquired the use of their legs, walking is decidedly the best exercise they can take. When the weather is fine, they should be taken out daily, and allowed to run freely about on the grass, or ground free from stones. A fall or two will do them little or no harm; when such do occur, they should not be soothed by expressions of extreme pity and sorrow, for children accustomed to excessive commiseration, will, when any little accident happens to them, never fail to strain their little lungs to the utmost by crying.

AIR, TEMPERATURE, AND NURSERIES.

Pure air is indispensable to the entire well-being of the human frame, and at no period of life are the effects of confinement in stagnant and impure air more obviously and lastingly detrimental than during the feeble and susceptible age of childhood. Infants ought to be accustomed to the fresh air as soon as they are two weeks old, and should enjoy it daily for an hour or two when the weather is clear and mild. They should not, however, be carried at once into the external air, without having been previously accustomed to the air of a well-ventilated chamber. After the child is three or four days old, it ought to be conveyed several times daily out of its nursery into a room having at first only the window open, and, in four or five days afterwards, the doors also. This having been practised

for ten or twelve days, the child may then be carried out of doors and permitted to enjoy the pure and open air; but at first it should not be kept out more than ten or twelve minutes at a time. After a child has acquired the power of walking, it should be suffered to spend a great portion of its time in the open air, provided the weather is temperate and dry; but while children are to be encouraged to take exercise and active amusement in the open air, they should not be permitted to lie down or sit on the cold and damp ground, or in a strong current of air in the shade when they are in a state of perspiration from exercise; nor should they, on any account, be permitted to drink cold water when thus heated.

Nurseries ought, of course, to be kept clean and well ventilated. When the atmosphere is mild, the external air ought to be freely admitted by keeping a window open during the day, and at night the chamber door should be left open. The floor should be kept clean and dry; wet and soiled articles of clothing should be instantly removed; and the temperature should never exceed sixty-eight degrees of Fahrenheit. The general error here is to keep the apartments of children much warmer than is consistent either with their comfort or health. Warm rooms principally contribute to the extraordinary mortality of children, who are carried off by convulsions in the first months of their lives. The nursery ought always to be of ample dimensions, and the windows should be provided with iron bars to prevent children from falling out, and all superfluous furniture should be excluded.

WEANING.

The proper time for weaning is soon after all the incision teeth have made their appearance. This varies considerably in different cases, but will seldom be delayed beyond the eleventh month, and in the majority of instances, will occur between the ninth and tenth months. Some infants, indeed, have teeth before the sixth month, and others not sooner than the twelfth or sixteenth; for the first it would be too soon to advise weaning,—for the latter, it would be too long to delay it. It would be injudicious to attempt weaning when the child's health is bad, while it is teething, or while laboring under disease of any kind, as the breast is a source or tranquillity—a kind of sedative in all the diseases and varieties of temper of infants. Weaning ought always to be accomplished, if possible, in a gradual manner; as the period of weaning approaches, small portions of bread,

bread and milk, milk thickened with rice or flour, or chicken tea, should be allowed the child, twice or thrice daily, whilst at the same time the intervals of suckling should be more and more prolonged. When the child is gradually accustomed to take other food, and very much amused by its mother, it will easily be got to forget the breast, and seldom require it.

The process of weaning will be helped by allowing the infant to drink from a cup, pretty liberally, of milk, with a sixth part of tepid water. After the child has been weaned, its principal nourishment ought still to consist of liquid or semi-fluid substances—milk, milk boiled with bread or slightly thickened with rice or wheat flour, preparations of arrow-root, tapioca, or sago, oatmeal gruel, or hard biscuits finely pulverized and dissolved in warm water, with a little milk and sugar, should constitute the principal nourishment, until the eye-teeth, or fangs, have made their appearance. Along with these fluid alimentary substances small portions of bread and weak broth may be occasionally allowed; but it is particularly important to guard against too full and nourishing a diet immediately after weaning. In general, weaning may be accomplished with least risk dur ing the mild months of April, May, September, and October. During the warm months of June, July, and August, the transition from the maternal milk to an exclusively artificial nourishment is more apt to be injurious.

CLEANLINESS, WASHING, AND BATHING

Cleanliness is a most important requisite to a healthy state of the skin. The tendency of a foul state of the skin to give rise to various chronic cutaneous disorders, of a loathsome and harassing character, is well known. The general health, too, is liable to be impaired by an habitually unclean state of the surface of the body. We have already said that infants ought to be thoroughly washed over the whole body at least once a day. After weaning, it will be sufficient to wash the child once every other day. During the first three or four months of the child's existence, warm water should be used; after that period it should be only lukewarm, until the first teething is completed, when it ought to be still further reduced until it excites a decided sensation of coolness when applied to the body. The washing should be performed with a soft sponge or a piece of soft linen. While the infant is at the breast, the bath, in addition to

washing, ought to be used every other day, and afterwards at least twice every week. Until the end of the third year, the bath ought to be tepid; and for feeble and sickly children, tepid water must be used till a later period. In using the bath, the child's body ought to be immersed up to the shoulders or neck: the practice of immersing only the lower half of the body in the bath is decidedly objectionable. For the first four or five weeks, the infant should not be kept beyond two or three minutes in the bath; the duration may be gradually prolonged until it extends to twelve or fifteen minutes—the period which a child may be allowed to spend in the bath after it has attained the age of four years. The best time for bathing children is about two hours after breakfast or dinner. The bathing ought to be conducted in a room moderately warm; and, on removing the child from the bath, it ought to be instantly wiped perfectly dry, and invested in warm and dry linen. Infants may then be placed in bed, which, in winter, should be previously warmed, and they will generally fall into a refreshing sleep. Children further advanced in age, who have already been accustomed to the cool bath, need not be put to bed, but rather encouraged to take exercise in the open air. The temperature of the bath ought to be about ninety-eight degrees of Fahrenheit during the first ten or twelve days of the child's existence. It should then be progressively reduced about one degree every month until the end of the first year, and continued at this degree of warmth until the completion of the second year. After this period, it is to be further reduced, though in a very gradual manner, until, about the end of the third year, it excites a sensation of decided coolness.

DISEASES OF CHILDREN.

TONGUE-TIE.

It frequently happens that the tongue of an infant is so tied down and restrained in its actions, that sucking is rendered extremely difficult, and attended with a peculiar "clucking" noise in the fauces. When this is occasioned by the proper fleshy frænum extending too near the extremity of the tongue, nothing can with propriety be done towards remedying the evil; but when the part which ties down the tongue is not the proper frænum, but a thin transparent member extending from it to near the tip of the tongue, it may be immediately divided with a pair of blunt-pointed scissors.

INFLAMMATION OF THE BREASTS AND NAVEL.

New-born infants are liable to a singular inflammation and enlargement of the breasts, which is often very injuriously treated by squeezing, sucking, or pressing them, in order that they may be "milked out," as ignorant nurses talk of. In moderate cases of this kind, nothing more is necessary than to apply a piece of linen moistened with a little sweet oil; or a weak solution of the muriate of ammonia in vinegar and water, in the proportion of a drachm of the ammonia to four ounces of vinegar. The solution ought to be applied warm by moistening pieces of linen with it, and laying them over the affected parts.

Inflammation and consequent ulceration about the navel is a frequent occurrence during the first nine or ten days after birth. The most common cause is deficient attention to cleanliness, particularly in not clearing away the white caseous matter from about the umbilicus. A solution of the sulphate of copper, in the proportion of ten grains to an ounce of water, may be applied once or twice daily, and the parts afterwards covered with lead ointment, where there is superficial ulceration without much inflammation. Whatever applications are made, the parts should be carefully washed with lukewarm water, at least twice daily.

JAUNDICE OF INFANTS.

In many instances a yellowness of the skin comes on within three or four days after birth, but soon disappears again, without producing any unpleasant consequences. When, however, the white of the eye becomes yellow, the bowels get costive, and the stools are whitish or clay-colored, and there is an inclination to vomit, a suitable course of remedial measures should be instantly resorted to.

Treatment.—Much benefit may often be derived from emetics. A few grains of ipecacuanha should be given every fifteen or twenty minutes until vomiting is produced; and when the disease is obstinate, the emetic may be advantageously repeated every other day until the stools acquire a bilious appearance. In all instances of an inflammatory character, however, attended with soreness of the region of the liver and stomach, emetics ought not to be employed. In these latter cases, the fourth of a grain of podophyllin may be given every two hours, until two or three grains have been taken. If

free purging does not ensue, its operation must be aided by castor-oil given in teaspoonful doses every hour until the effect is obtained. After the bowels have been once freely evacuated, they should be kept in a loose state by administering one-fourth of a grain of podophyllin every morning, noon, and evening, with an occasional teaspoonful of castor-oil. In conjunction with these remedies, the daily use of the warm bath is beneficial; and gentle friction with the bare hand over the region of the liver and stomach, provided there be no hepatic inflammation or abdominal tenderness. Where infantile jaundice is accompanied with a febrile condition, four or five leeches ought to be applied to the right hypochondrium; and, in very violent cases, the application of a small blister to the region of the liver may do much good. Where there is great constipation of the bowels, eight or ten drops of spirits of turpentine may be added to the dose of castor-oil. Where diarrhœtic symptoms are present, a fourth of a grain of Dover's powder, in conjunction with a grain of the bicarbonate of soda, may be given every three or four hours. It is hardly necessary to add that all severe cases of this disease should be treated by a medical man.

RETENTION, SUPPRESSION, AND DIFFICULTY IN VOIDING THE URINE.

There may be little or no urine secreted during the first fifteen or twenty hours after birth, and yet the infant manifest no uneasiness; but when the inactivity is protracted much beyond this period, the consequences may be very serious and even fatal. A teaspoonful of weak parsley tea, with two drops of sweet spirits of nitre, given every half hour, and the employment of the hip-bath, will generally excite the proper action of the kidneys. Should these means fail, friction may be applied over the loins and hypogastric region, and a drop of spirits of turpentine in a teaspoonful of milk, given every thirty or forty minutes in conjunction with warm bathing and laxatives.

When there is retention of the urine, that is, when the urine is regularly secreted and conveyed into the bladder, but is not discharged,—a fact easily ascertained by the obviously increased distress of the child upon pressure with the hand on the hypogastric region,—the warm bath is to be employed, with purgatives and gentle friction with camphorated oil; but, if the symptoms still increase, the bougie and catheter, in a skillful hand, must be immediately resorted to. Great care and delicacy are requisite in the

introduction of such an instrument as the catheter into the bladder of an infant. It is also to be remembered that the bladder may continue distending, although small portions of urine are from time to time evacuated. This occurrence very frequently deceives the nurse, who imagines that the infant has obtained the requisite relief, while its sufferings and danger are momentarily increasing.

Pain and difficulty in voiding urine is a frequent complaint among infants, particularly during teething. When an infant is observed to have occasional fits of violent shrieking, this cause may be suspected. To ascertain the cause of the disease, the urine must be examined. If it presents a reddish sediment, the bowels should be freely evacuated with magnesia and rhubarb. Two or three grains of the subcarbonate of potash may be also administered twice or thrice daily. In cases where the urine deposits a whitish or yellow-white sediment, the bowels are to be freely evacuated with rhubarb or castor-oil, and very small doses of Dover's powder exhibited. Half a grain of this article, with a grain of powdered valerian, may be given every six hours to a child between two and five years of age. The diet should be mild and nutritious. Where there is no morbid condition of the urine, a weak infusion of parsley-seed mixed with an equal portion of flax-seed may be employed. Where there is a slightly inflamed state of the extremity or orifice of the urethra, —a case almost wholly confined to female children,—the application of citrin ointment, mixed with an equal portion of lard, seldom fails to effect a cure.

INCONTINENCE OF URINE.

Incontinence of urine is a common affection in children. It is rarely attended with any particular uneasiness. In the majority of protracted cases, it is owing mainly to the influence of habit.

Treatment.—If the urine is affected, the treatment should be regulated as indicated above, until it has been brought to a healthy or natural state. If this fails to overcome the habit, tincture of cantharides may be administered in doses of from ten to fifteen drops, thrice in the course of twenty-four hours, until a burning pain is experienced at the neck of the bladder on passing the urine. When this effect is produced, the use of the cantharides must be omitted; if it is too violent, it may be moderated by mucilaginous drinks, such as flaxseed-tea, and the use also of the warm hip-bath. When there is an irritable state of the bladder, cooling laxatives and

opiates must be employed, with a mild diet. The child affected with incontinence of urine should always be made to sleep on its side or belly, and should always be required to empty the bladder just before going to bed.

TEETHING.

The progress of teething is usually accompanied with general irritability of the system; one or both cheeks are often flushed, and the infant frequently starts in its sleep. This period is upon the whole one of the most perilous stages of life,—as many complaints which, at other periods, would have terminated favorably, often acquire a fatal violence from the irritable and irritative condition of the system. The occurrence of convulsions from difficult dentition is very common, and nothing tends more to favor their occurrence than improper diet, or overloading the stomach. Various eruptions on the skin are also frequently attendant on teething. Infants are also liable at this period to a peculiar croupy affection, attended with extremely difficult respiration. Fever is, upon the whole, the most common sympathetic affection of difficult teething. It seldom, however, assumes a vehement character.

During teething the diet should be as mild and simple as possible. If the nurse has plenty of milk, nothing but it should be allowed until all the incisors at least are protruded. Should artificial nourishment be necessary, recourse may be had to the simple mixture of milk and water, mentioned in the article on "artificial feeding." All solid articles of food ought to be rigidly avoided. Regular exercise in the open air is of great utility during dentition, where there is no distinct fever. The head ought to be kept cool, and, during warm weather, no caps ought to be worn. The bowels ought to be kept open by small doses of epsom salts dissolved in some bland and slightly mucilaginous fluid. When the stools present a whitish or clayey color, one or two grains of podophyllin may be given every third or fourth evening, and a moderate dose of castor-oil or magnesia on the following morning.

A moderate diarrhœa need not be checked; it will rather do good within certain limits, by counteracting the febrile disposition of the system. If it appears necessary to moderate it, a powder composed of one-fourth of a grain of ipecacuanha, one-sixth of a grain of podophyllin, and four or five grains of prepared chalk, should be given every three or four hours. By giving two or three doses of this

powder daily, the diarrhœa may generally be kept in a sufficiently moderate state. The child's mouth ought to be washed out with fresh water every morning; and it should be allowed a smooth coral or an ivory ring, to press and rub its gums with. The gums should be regularly inspected, and when much inflamed and swollen, should be freely divided by a lancet, directly over the point of the advancing tooth. The gums must be freely divided down to the teeth. This division of the gums is always to be resorted to when convulsions occur, if there be any signs of inflammation. When there are symptoms of cerebral irritation,—such as great fretfulness, flushing of the cheeks, and unusual sensibility of the eyes to the light,—the timely application of blisters behind the ears, or on the back of the neck, may do great service. The simultaneous application of cold to the head and warmth to the feet will also be useful. When the gums become ulcerated before the teeth are protruded, they should be lanced, and touched occasionally with a solution of four grains of sulphate of copper, or nitrate of silver, dissolved in an ounce of water, and applied with a dossil of lint.

DIABETES.

Diabetic affections are more common among children than is usually supposed, but seldom occur after the second year.

Symptoms.—In the commencement of the disease the child becomes languid and fretful; in a short time it begins to fall off in flesh, while the skin becomes dry, hard, and flabby; as the disease advances, the bowels get disordered, and the tongue is covered with a white fur, or thick transparent mucus; the abdomen also becomes distended and tense, and, in the more advanced stage of the disease, the brain is generally more or less affected. The most remarkable symptom, however, is the inordinate discharge of urine, with or without sedimentous matter.

Treatment.—In treating this disease, in cases where the urine is clearly saccharine, an animal diet should be substituted for the usual farinaceous or milk diet. If febrile symptoms are present, give mild aperients, and the occasional use of the warm bath. Opiates are often decidedly beneficial. To a child between one and two years old, a grain of Dover's powder may be given two or three times daily. In cases where the urine is not sweet, small doses of the bicarbonate of soda, in union with two or three grains of the bicarbonate of iron, may be advantageously employed. A turpentine

plaster laid over the region of the kidneys has been found of service in infantile diabetes. Where the digestive powers are good, beef tea, or weak chicken-broth, mixed with the usual farinaceous substances, or a portion of milk, may be given for diet. The state of the gums should be particularly attended to while the child is laboring under this affection.

ERYSIPELAS.

Infants are liable to a peculiar erysipelatous inflammation within a few days after birth.

Symptoms.—It generally commences on the lower parts of the body, in the form of a small red blotch, which gradually spreads over the abdomen and the thighs, presenting a swollen dark-red surface. In most cases, soon after inflammation is established, vesicles make their appearance, and the disease soon reaches a dangerous condition, the tendency to suppuration and gangrene being very great.

Treatment.—On the first appearance of inflammation, wrap up the affected parts with cloths saturated with a strong solution of the sulphite of soda, and cover with oiled silk. The mucilage of slippery-elm bark, or grated potatoes, applied, will check the spreading. If gangrene is indicated, apply a poultice of indigo-weed, or lotions of the permangranate of potash. In inflammation, give teaspoonful doses of the elixir cinchonea and iron, in addition to the external application of the sulphite of soda.

THRUSH.

This is one of the most common diseases of infancy. It is characterized by a peculiar eruption of minute pustules, and a whitish incrustation of the tongue.

Symptoms.—There are generally much thirst, restlessness, languor, acid and flatulent eructations, loose and griping stools, drowsiness, pain, difficulty of sucking, and a copious flow of saliva from the mouth. The stomach and bowels are almost always prominently disordered, and the infant is apt to vomit after taking anything into its stomach. The abdomen is often sore to the touch, and great difficulty of swallowing is experienced. Feeble and sickly children scarcely ever escape this disease; children, also, who are kept in crowded or ill-ventilated apartments are especially liable to it.

Treatment.—The first object is to restore the healthy condition

of the stomach and bowels, if disordered. Where the ejections from the stomach are sour, and the alvine evacuations of a grass-green color, from three to four grains of magnesia with two grains of rhubarb, and one of powdered valerian, should be given every two or three hours until the bowels are freely evacuated. If there is much general irritability and restlessness, after this the tepid bath, followed by a drop or two of laudanum, should be employed. The mucous membrane of the intestines is apt to become highly irritated in severe cases; the alvine evacuations in such instances are frequent, watery, and streaked with blood. When these symptoms are present, a large emollient poultice should be applied over the abdomen, in conjunction with the internal use of minute portions of Dover's powder, with a solution of gum arabic as drink. Borax is a familiar remedy with nurses and mothers, as well as with the profession. It may be used either in the form of a powder, or in solution. If the former is employed, two or three grains of it, mixed with a small portion of pulverized loaf-sugar, must be thrown into the mouth every two or three hours; if the solution be used, a drachm of the borax should be dissolved in two ounces of water, and applied to the mouth with a soft linen rag tied to the extremity of a pliable piece of whalebone, or with a soft feather. The practice of forcibly rubbing off the eruption is extremely reprehensible; for, when rubbed off in this way, the crust is soon renewed in an aggravated form. Where the mouth is very red, livid, or ulcerated, we must have recourse to a decoction of bark. A half ounce of powdered bark, boiled about thirty minutes in half a pint of water, will make a suitable decoction; and of this about the third of a teaspoonful may be put into the child's mouth every hour or two.

ULCERATION OF THE MOUTH.

Children are liable to an ulcerative affection of the mouth, which is evidently distinct from the ordinary aphthous eruption. It consists in a number of small ash-colored and excavated ulcerations, with elevated edges situated about the frænum, and along the inferior margin of the tongue and gums and on the cheek. They usually commence in the form of small, red, slightly elevated points, attended with slight symptoms of febrile irritation.

Treatment.—Clear out the bowels with a dose of magnesia and rhubarb. A solution of ten grains of the sulphate of copper in about three teaspoonfuls of water, to which four teaspoonfuls of borax must

be added, may be applied to the ulcers once or twice daily by means of a strong camel's-hair pencil. Solid food, especially salted meats, and fish, must be rigidly avoided during this complaint.

COLIC.

Colic pains occur often, and with great severity, during the first five or six months of infancy. In slight attacks the infant suddenly becomes fretful, draws up its legs towards the abdomen, whines or cries for a few moments, and then resumes its usual quiet condition. After a very short interval, another attack of the same kind occurs, and again soon subsides; and this goes on until a volume of wind breaks from the stomach or bowels, or a thin fæcal discharge takes place, when relief ensues. In many cases, however, the symptoms are much more violent: there is excessive and unappeasable screaming, violent kicking, flushing of the face, writhing of the body, and a distended and tense state of the abdomen. When the colic pains are frequent, the general health of the infant almost always suffers obvious derangement; sometimes, however, the appetite remains good, and the infant goes on as if it were in every respect perfectly healthy. These pains are, in many instances, the consequences of overloading the delicate stomach of the infant with artificial food; sometimes they arise from bad milk; sometimes from the influence of cold.

Treatment.—When there is reason for believing that the breast-milk is unwholesome, proper dietetic measures are to be attended to by the nurse; but if, notwithstanding a regulation of her diet, the infant is still harassed by colic attacks, some advantage may perhaps be obtained by applying it to the breast at long intervals, and substituting small portions of artificial food, such as very thin arrow-root, barley-water, or a mixture of cow's milk and water. Magnesia, by its anti-acid and purgative effects, is one of the most useful remedies we possess for the management of this complaint. Three grains of magnesia with two grains of powdered velerian, may be given twice or thrice daily, until all acidity of the stomach is removed. If this do not keep up a sufficient action of the bowels, the proportion of magnesia should be occasionally increased, or a few grains of rhubarb added to the powders.

As a temporary palliative for lessening the violence and duration of the attacks, Dr. Eberle recommends the following mixture: Dissolve one drachm of camphor in an ounce of sulphuric ether; take

thirty drops of this solution, twenty grains of magnesia, and six drops of laudanum, and mix them together with an ounce of fennel-seed tea. Of this mixture, a teaspoonful may be given to an infant from two to six weeks old; and, if sufficient relief be not obtained in half an hour, about half a teaspoonful more should be administered. Gentle friction with dry flannel over the abdomen is useful in aiding the expulsion of the confined wind. When this disease recurs periodically, the above remedies will seldom be found so powerful as in the common irregular form of the complaint; but when employed at all, they ought to be given the instant the paroxysm is about to commence. Viewing it as a periodical complaint, Dr. Dewees has administered a decoction of bark, during the intervals of the attacks, with great success.

We must caution mothers and nurses, under this section, against the very common but very pernicious practice of administering large doses of anodynes or carminatives to infants. The habitual use of such substances almost always leads to very unfavorable consequences. Under this treatment, the appetite and digestive powers fail; the body becomes emaciated, and the skin sallow and shrivelled; the countenance acquires an expression of languor and suffering; and a general state of apathy, inactivity, and indolence ensues, which will probably terminate in convulsions, dropsy of the head, glandular swellings, incurable jaundice, or fatal exhaustion of the vital energies. All the usual soothing mixtures contain more or less opium, and innumerable infants have been irretrievably injured by their employment.

CONSTIPATION.

Torpor of the bowels and consequent costiveness is of frequent occurrence among infants. In some instances the bowels always require to be excited by artificial means. In constitutional costiveness, a period of from two to four days may intervene between stools without the child receiving any great injury, but it is prudent to watch such symptoms, especially where there is any tendency to convulsive affections.

Treatment.—Manna dissolved in warm water to the consistency of a thick syrup is a good laxative, in teaspoonful doses. Costiveness from accidental causes is a more serious complaint. These causes may be a preternatural determination of the blood to the head, or an undue exhibition of opiates, or a rice diet, or unhealthy milk.

Cold-pressed castor-oil is an excellent laxative in ordinary cases of this kind; if acidity be present, magnesia is the appropriate laxative. In moderate cases, the introduction of a soap suppository into the anus will be of service.

VOMITING.

Vomiting occurs more frequently, and, in general, with much less unpleasant consequences, during early infancy than at any other period of life. It often happens in robust infants who are nourished at exuberant breasts, immediately after they have sucked. This is rather a salutary than a morbid occurrence, being a simple effort of nature to relieve itself of the superabundant nourishment with which the digestive organs are overloaded, yet it is always proper to guard against such over-repletion of the infant's stomach. With this view, the child should be taken from the breast the moment it begins to dally with it, or as soon as it ceases to draw as if it were really gratifying a necessary and proper appetite. When the infant has satisfied its appetite—we here repeat a caution already given—it ought not to be instantly jolted and dandled, but suffered to remain perfectly at rest for at least thirty minutes.

Treatment.—Vomiting connected with teething must be checked by blisters behind the ears, by dividing the gums, by purgatives, or by small doses of laudanum, as the case requires. In cases of vomiting excited by acidity of the stomach, repeated doses of lime-water and milk will be found serviceable. Where there is no acid present, and the food, having lain some time in the stomach, is suddenly and violently ejected, a drop or two of nitric acid in a little sweetened water, may be given. When the vomiting is excited by some improper article of food, a mild emetic, such as four or five grains of ipecacuanha, may be given; or, in some cases, a little warm water will serve the purpose. If, after the stomach has been freed of its offensive contents, the vomiting does not cease, a few drops of laudanum, or of camphorated spirit in a little milk, will generally prevent its recurrence.

DIARRHŒA.

Diarrhœa is more common during infancy than at any other period of life; and it is also more apt to assume an unmanageable and dangerous character at this period than at a more advanced stage of childhood or adult age.

Causes.—The exciting causes of this disease are extremely various. Irritating, crude, and inappropriate articles of food or drink, are a frequent cause of diarrhœa. Children who are entirely nourished at the breast are much less liable to this complaint than such as are partly nourished by artificial food. Some infants are invariably purged when fed with cow's milk, even when considerably diluted with water; others again are purged by arrow-root, although the usual effects of this substance are rather of a constipating character. Infants who are fed with solid food seldom escape suffering more or less diarrhœa. The practice of allowing them to gorge themselves with potatoes, meat, pastry, dried fruit, and other articles of this kind is particularly injurious, and often produces chronic diarrhœa. In some instances the mother's or nurse's milk gives rise to vomiting and purging. Cold, by suddenly checking perspiration, and determining the blood to the internal parts, frequently gives rise to bowel complaint in infants. Cold bathing, or washing; suffering wet diapers, stockings, &c., to remain too long on the infant; setting it down on the grass-plots, floors, steps, &c.; passing suddenly from a close and warm room into the cold external air; exposure to cold and moist weather without sufficient clothing, particularly about the abdomen;—these are the ordinary ways in which diarrhœa, from the influence of cold, is produced in infants; and cases arising from such causes are generally attended with catarrhal symptoms, more especially with cough. A high atmospheric temperature is frequently concerned in the production of this complaint; the occurrence of bowel-complaints among children is comparably more frequent during the hot months of summer than in the colder seasons of the year.

Treatment.—Immediate attention must be paid to the diet. Do not give the child any solid food, and especially keep from it pastry, sweetmeats, and confectionary. The most appropriate food will be plain boiled rice and milk; in many cases simple boiled milk will arrest the discharges. Crackers and milk, gruel, tapioca, &c., are also useful. At the commencement of the attack give a mild purge of castor-oil or syrup of rhubarb, and use the warm bath. If the stools are sour, dissolve a teaspoonful of bicarbonate of soda in half a glass of water, and give a teaspoonful every hour. An excellent remedy for looseness of the bowels is tea made of ground bayberry. Sweeten it well, and give a half teacupful once in two hours, until the child is better.

SUMMER COMPLAINT, OR CHOLERA INFANTUM.

This disease is almost peculiar to children of large cities, and is most frequent in those who reside in small, crowded, and ill-ventilated apartments. It is rarely seen, except between the ages of three and twenty-four months, seldom beginning before or after dentition.

Symptoms.—It usually begins with vomiting and purging about the same time, though in some instances, purging may take place a day or two before the stomach is materially disturbed. The tongue, in most instances, is slightly furred at the beginning of the disease; but, after a few days, it becomes smooth and polished, or dry and brown. The stools are commonly thick, frothy, and fluid, intermixed with little spots of green bile; though, at other times, they are as transparent as water, having only some flakes of mucus floating through them. After a short time, no bilious matter is to be seen in the discharges. The patient usually becomes immediately prostrate; and, if not speedily destroyed, it emaciates very rapidly. The vomiting and purging are not always constant, but sometimes occur in paroxysms, after intervals of a few hours; and, in some fortunate cases, after a duration of five or six hours, they subside entirely. There is evident pain, or great uneasiness in the stomach and bowels, especially in the commencement. The hands and feet are cold, the skin of the body and head is hot and dry, and becomes shrivelled or wilted. The eyes lose their lustre, the eyelids but half cover them, the nose becomes pointed, the skin contracted upon it, while the lips are thin and shrivelled. In this condition the child lies upon the lap, or upon the pillow, apparently exhausted and indisposed to move, except when impelled to vomit, or cry for cold water,—the only thing which it is willing to take,—and this is often either thrown up instantly from the stomach, or suddenly passed off by the bowels. From this state it frequently sinks into stupor and insensibility, and often dies in convulsions. If the disease do not thus speedily destroy life, the stools assume a dark, offensive, and highly irritating character; the mouth becomes sore, covered over with white fur or superficial ulcers; the face bloated, the abdomen distended with flatulence, and when the system is greatly reduced, the skin is sometimes studded with spots of blood effused beneath the cuticle, or there may be some watery blisters scattered about the chest and other parts. The treatment of this very fatal disease is very complex and difficult.

Fortunately, it is rare, except in large cities, where medical advice is at hand, and yields, or becomes mild, almost immediately on a removal to a cool country situation.

Treatment.—On the first appearance of the disease, if possible, take the child to the open air of a farm or small village. A well-ventilated apartment in the upper story of a house, if not too much heated by the roof, will give children a much better chance of life, with or without treatment, than the ground floor. Let the child remain day and night in such a room. We have frequently seen the disease in the country, and found it very fatal; but only in residences where uncleanly habits have produced an artificial hot climate and the foul air natural to an alley in the midst of the free atmosphere of healthful districts.

For the prevention of this disease, we would earnestly press upon those mothers who reside in large compact towns, and in the lanes and alleys where the affection most prevails, to keep their houses clean and well aired; to wash the whole bodies of their children daily, or more frequently, with clean, tepid, or cool water, changing their dress sufficiently often to keep them cleanly clad; to abstain from the use of unripe or unwholesome fruit themselves, and by all means, to prevent their children from eating it. Let their infants be supplied, as far as possible, from their own breasts, and if they do not supply sufficient nourishment, let the balance be made up with pure cow's milk, either alone or moderately diluted with soft water. When any teeth make their appearance, or the gums appear swelled, and the child is fretful, let the gums be carefully and freely lanced; and if there be any eruption on the skin, or behind the ears, let no applications be made to them, except for the simple purpose of keeping them clean, without suddenly drying them up. If they should heal rather suddenly, and the child become restless or feverish, let a little blister ointment be rubbed behind the ears, till a discharge is produced, carefully keeping the blisters open, by dressing them with a little basilicon or savin ointment. Let the child wear flannel next its skin, and worsted stockings on its feet, even during the summer season; and when it has passed beyond its first year, let the diet be regulated strictly on the principles laid down under the head of weaning. In addition, give it gum-water, or rennet-whey, with a little gum arabic added to it. These measures, if promptly adopted, will often cure the disease without medicines. If vomiting is severe, give this mixture: camphor, one drachm; sulphuric ether,

one ounce; mix, and give ten drops every half hour. If this fails, give the following:—

Sugar of Lead,.....5 grains.
Vinegar,.....6 drops.
Loaf Sugar,.....3 drachms.
Soft Water,.....1 ounce.

Mix. Dose, a teaspoonful every hour. When the vomiting has stopped, give the compound syrup of rhubarb and potassia, which will usually arrest the discharges. If the stools are sour, dark-colored, and disagreeable, give the following:—

Pulverized Charcoal, ...1½ drachms.
Pulverized Rhubarb, ...2 scruples.
Pulverized Ipecac, ...6 grains.
Extract of Hyoscyamus,.....12 grains.

Mix, and divide into twelve portions. Dose, one in every three or four hours.

The following has also been found very useful:—

Pulverized Rhubarb, ... 1 scruple.
Leptandrin,.....10 grains.
Calcined Magnesia,..... 2 scruples.
Pulverized Cinnamon,.....10 grains.

Mix. Dose, three or four grains every third hour, to a child of six months.

WORMS.

Worms often are present in early life, without any indication of disease, caused mostly by dietic errors.

Treatment.—An injection composed of a teaspoonful of spirits of turpentine mixed in a gill of milk, is very useful; or give ten grains of powder of pink-root night and morning. Flour of sulphur taken in the morning before breakfast has been recommended. For further treatment, see article on *Worms* (p. 234).

SORE EYES (*Purulent Ophthalmia*).

The purulent ophthalmia of infants generally commences between the fourth and eighth day after birth. At first, the eyelids appear glued together, and this symptom is attended, in the morning, with slight swelling and external redness. As the disease proceeds, the swelling of the eyelids increases, and a thick purulent matter begins

to issue from the eyes; the child, at the same time, becomes very fretful and uneasy, and keeps its eyes constantly and firmly closed. When the inflammation is confined to the eyelids, the disease seldom occasions any serious injury to the eye. The exciting cause of this disease, thus early appearing, is, in most cases, some acrid or morbid secretion in the womb of the mother which has come in contact with the infant's eyes during its passage from the womb into external life. But, it may be proper here to caution nurses against the practice—too prevalent—of taking the infant, as soon as born, before a blazing fire, with perhaps a candle at no great distance, and keeping it in this position with its tender visual organs exposed to the action of so much heat and light. The best way to secure the infant's eyes against the effects of any morbific matter which it has come in contact with in the womb, is to wash them in the most careful manner after birth. This should be done with tepid water, which should be frequently changed and freely applied, so as to insure the entire removal of any irritating matter that may adhere to them. In all instances, too, care should be taken not to expose the infant's eyes too suddenly and immediately to any strong light; for, although this may not of itself be capable of exciting the disease, yet there can be no doubt of its tendency to irritate the eyes.

Treatment.—Immediate attention must be given to this disease. If neglected in its early stages, the eye may be permanently injured, or perhaps destroyed. Keep the eyes clean with washes of flaxseed tea or lukewarm water. To prevent the eyelids adhering, rub a little glycerine, or rosewater ointment, along the edge of the lids. If the cornea be implicated in the least, drop into the eye a drop or two of this mixture: atropia, one grain; tincture of gelsemimum, thirty drops. If the child's health be impaired, it must be sustained by nourishing diet, cod-liver oil, and salt-water bathing; and apply friction to the skin. The bowels must be kept open with a little magnesia or castor-oil.

CROUP.

This is an inflammation of the larynx and trachea, causing a difficulty of breathing, and a rough hoarse cough, with a sonorous inspiration of a very peculiar character, sounding as if the air was passing through a metallic tube. It most usually attacks children of from one to three years of age, to whom it sometimes proves fatal; very rarely are adults affected by it.

Symptoms.—The symptoms are merely those of a common cold, or catarrh; then comes on a dry cough, with hoarseness and wheezing; at night there is restlessness and rattling in the throat, after which the croupy crow and sound above spoken of gives unmistakable warning of the disease, which goes on increasing in intensity for a day or two, or perhaps several days, before there is a really alarming paroxysm, which mostly occurs about midnight. The child, after tossing restlessly about, endeavoring in vain to sleep, will start up with a flushed face, protruding eyeballs, and a distressing look of terror and anxiety; there is a quick vibrating pulse, and agitation of the whole frame, which presently becomes covered with a profuse perspiration. As the struggle for breath proceeds, there is clutching of the throat, as though to force a passage; the arms are thrown wildly about, the respiration becomes more labored, the rough cough more frequent, and the characteristic croup rings out like an alarm. There is expectoration of viscid matter, but so difficult is it to be got rid of, that the efforts appear to threaten strangulation; gradually the symptoms become weaker, and eventually the child falls into the sleep of exhaustion. It will probably wake up refreshed, and during the day may appear pretty well; but at night again, probably there will be a recurrence of the attack with aggravated symptoms, convulsions, spasms of the glottis, causing the head to be violently thrown back, in the effort to obtain a passage for the air through the windpipe; there is a fluttering motion in the nostrils, the face is puffed and of a pale leaden hue; a film comes over the sunken eyes, the pulse becomes feeble and irregular; there are more gasping convulsive efforts to continue the struggle, but in vain; the powers of life at length succumb, and the patient sinks into a drowsy stupor, which ends in death. Such is the frequent course of this painful disease, and the changes from bad to worse are so rapid that there is little time for the operation of remedies, that is when paroxysms have begun.

Treatment.—Confinement to the house in case of threatened croup is always advisable, unless the weather should be very warm and open, and then exposure after sundown should be avoided; a dose of calomel (about three grains) should be administered, and followed by nauseating doses of tartarized antimony, of which one grain dissolved in an ounce of warm water, and a teaspoonful of the solution given every quarter of an hour, until the effect is produced. Should the bowels be confined after this, give senna mixture, or scammony

powder. Apply mustard and bran or flaxseed poultices to the throat. Fill the room with the vapor of boiling water,—a large kettle on the stove will effect this. Leeches, if the patient is of full habit and the breathing is very labored, and a spare diet, are the other remedial measures.

In the paroxysms, the most prompt and vigorous measures must be adopted to give any chance of success: bleeding in such quantity as to diminish the vascular action on the surface of the windpipe, and to relax the muscles; strong emetics to cause full vomiting, which often has a most beneficial effect; warm baths, and blisters applied from one ear to the other. Calomel combined with ipecacuanha powder, or tartar emetic, should be given every four hours or so; and, if the danger is extreme, counter irritation by means of mustard poultices applied to the calves of the legs, &c. In leeching for croup, one leech for each year of the child's age is the general rule to be observed, and the best part is over the breast-bone, where pressure can be applied to stop the bleeding, if required; over the leech-bites apply a blister, should one appear necessary. If the above powders should cause too violent an action on the bowels, add to them a little chalk and opium. Should the child appear likely to sink from exhaustion, after vomiting has been produced, stay the emetics, and give liquor of acetate of ammonia twenty drops, with five or ten drops of sal volatile, or the same of brandy in a little water, or camphor mixture; a little white-wine whey may also be administered. Of course, the first endeavor in an attack of croup should be to obtain medical assistance; but if this can not be procured, there must be no temporizing: resort at once to the remedies most ready to the hand, using them according to the best knowledge and discretion available. Let the contagious nature of croup be ever borne in mind, and especial care taken to keep apart those affected with it from any other children in the family or house. Let it also be remembered that the great agents in producing croup are cold and moisture; and the greatest of all the east wind, and that those who have once been attacked by it are peculiarly liable to a recurrence of such attack.

Croup is most likely to be fatal when inflammation commences in the fauces; and this, if discovered in time, may be stopped by the application of a solution of nitrate of silver to the whole surface within sight, and to the larynx.

SPASM OF THE GLOTTIS, OR CHILD-CROWING.

This exhibits much the same symptoms as the croup. It is not, however, of an inflammatory character, but is symptomatic of some other disease commonly coming on as a result of irritation caused by hydrocephalus, teething, worms, &c. The medical man only can judge of the probable cause, and he will use such remedies as are most applicable to the peculiarity of each case.

Treatment.—The following mode of treatment recommended by Dr. Leman, of Torzan, has, we believe, been found efficacious in many cases of croup. It is simple and easy of application. We give the details as furnished by Dr. Graves: "A sponge, about the size of a large fist, dipped in water as hot as the hand can bear, must be gently squeezed half dry, and instantly applied under the little sufferer's chin over the larynx and windpipe: when the sponge has been thus held for a few minutes in contact with the skin, its temperature begins to sink; a second sponge, heated in the same way, should be used alternately with the first. A perseverance in this plan during ten or twenty minutes, produces a vivid redness over the whole front of the throat, just as if a strong sinapism had been applied; this redness must not be attended or followed by vesication. In the mean time the whole system feels the influence of the topical treatment; a warm perspiration breaks out, which should be well encouraged by warm drinks, such as whey, weak tea, &c., and a notable diminution takes place in the frequency and time of the cough, while the hoarseness almost disappears, and the rough ringing sound of the voice subsides, along with the difficulty of breathing and restlessness; in short, all danger is over, and the little patient again falls asleep, and awakes in the morning without any appearance of having suffered from so dangerous an attack. I have repeatedly treated the disease on this plan, and with the most uniform success. It is, however, only applicable to the very onset of the disease; but it has the advantage of being simple, efficient, and easily put in practice, and its effects are not productive of the least injury to the constitution."

SNUFFLES, OR COLD IN THE HEAD.

Children are very liable to this distressing complaint, caused by inflammation of the lining of the nose.

Treatment.—Rubbing the nose with goose-grease, lard, or tallow, will generally give relief. Keep the bowels open with a little castor-

oil; and, if the stoppage in the nose is obstinate, give warm doses of catnip, penny-royal, or balm tea.

HOOPING-COUGH.

This well-known disease is chiefly but not wholly confined to the stages of infancy, and it occurs but once in a lifetime. It may be described as spasmodic catarrh, and its severity varies greatly; sometimes being so mild as to be scarcely known from a common cough, at others exhibiting the most distressing symptoms, and frequently causing death by its violent and exhausting paroxysms.

Symptoms.—The first symptoms of this cough are those of a common cold; there is probably restlessness and slight fever, with irritation in the bronchial passages; this goes on gradually increasing in intensity for a week or ten days, and then it begins to assume the spasmodic character. At first the paroxysms are slight, and of short duration, with a scarcely perceptible "hoop," but soon they become more frequent and severe; a succession of violent expulsive coughs is followed by a long-drawn inspiration, in the course of which the peculiar sound which gives a name to the disease is emitted; again comes the coughs, and again the inspiration, following each other in quick succession, until the sufferer, whose starting eyes, livid face, swollen veins, and clutching hands, attest the violence of the struggle for breath, is relieved by an expectoration of phlegm resembling the white of an egg, or by vomiting. When the paroxysm is over, the child generally resumes its play, or other occupation, and frequently complains of being hungry. As the disease proceeds, the matter expectorated becomes thicker, and is more easily got rid of, and this is a sign of favorable progress; the spasmodic paroxysms become less frequent and violent, and gradually cease altogether; but the changes here indicated may extend over a month or six months, according to circumstances, the season of the year having much influence in hastening or retarding them,—summer being, of course, the most favorable time. It is a common impression that, at whatever time of year an attack of hooping-cough commences, it will not end until May; this is simply because of the change in the weather which generally takes place in or about the course of this month. With a strong healthy child (when proper care is taken), there is little to apprehend from this disease, provided it be not complicated with others, such as inflammation of the lungs, or any head affection producing convulsions; it then proves a most dangerous malady,

and is fatal to many. With children of full habit, the fits of coughing often cause bleeding at the nose, but this should not be viewed with alarm, as it relieves the vessels of the brain, and is likely to prevent worse consequences.

To weakly children hooping-cough is a very serious malady,—to all it is frequently a sore trial, but to them it is especially so; therefore, great care should be taken not to expose them to the danger of catching it. That it is contagious there can be no doubt; and, although some parents think lightly of it, imagining that their children must have it at one time or another, deem that it matters little when, and therefore take no pains to protect them against it; yet we would impress upon all our readers who may have the care of infants, that a heavy responsibility lies at their door. It is by no means certain that a child will have this disease; we have known many persons who have reached a good old age, and never contracted it; and it is folly and wickedness needlessly to expose those placed under our care to certain danger.

Like fever, hooping-cough has a course to run, which no remedies with which we are at present acquainted, will shorten. The severity of the symptoms may be somewhat mitigated, and we may, by watching the course of the disease, and by use of proper means, often prevent those complications which render it dangerous; and this brings us to the consideration of the proper mode of

Treatment.—The first efforts should be directed to check any tendency to inflammation which may show itself; to palliate urgent symptoms, and stop the spasm which is the most distressing feature of the case. To this end, the diet must be of the simplest kind, consisting for the most part of milk and farinaceous puddings; if animal food, it must not be solid, but in the form of broth or beef-tea; roasted apples are good; and for drinks, milk and water, barley-water, weak tea, or whey. Care must be taken to keep the bowels open with some gentle aperient, such as rhubarb and magnesia. An emetic should be given about twice a week to get rid of the phlegm—it may be ipecacuanha wine or the powder. To relieve the cough, the following mixture will be found effective:—

Ipecacuanha Powder,	10 grains.
Bicarbonate of Potash,	1 drachm.
Liquor of Acetate of Ammonia,	2 ounces.
Essence of Cinnamon,	8 drops.
Water,	6½ ounces.

Dose, a tablespoonful about every four hours. Twenty drops of laudanum, or one drachm of tincture of henbane may be added if the cough is very troublesome, but the former is objectionable if the brain is at all affected.

For night restlessness, two or three grains of Dover's powders taken at bedtime, is good; this is a dose for a child of three years old. Mustard poultices to the throat, the chest, and between the shoulders, are often found beneficial; so is an opiate liniment composed of compound camphor and soap liniment, of each six drachms and four drachms of laudanum. "Roche's Embrocation" is a favorite application, and a very good one; it is composed as follows:—oil of amber, and of cloves, of each one half ounce; oil of olives, one ounce; a little laudanum is, perhaps, an improvement. This may be rubbed on the belly when it is sore from coughing. Difficulty of breathing may be sometimes relieved by the vapor of ether or turpentine diffused through the apartment. In the latter stages of the disease, tonics are generally advisable. Steel wine, about thirty drops, with two grains of sesquicarbonate of ammonia, and five drops of tincture of conium, in a tablespoonful of cinnamon water, sweetened with syrup, is a good form; but a change of air, with a return to a generous diet, are the most effectual means of restoration to health and strength.

CONVULSIONS, FITS, SPASMS.

Fits are cerebral, and arise from diseases within the head, or from irritation in the stomach and bowels, or from exhaustion; or they are evidence of, and depend on, some malformation or disease of the heart.

Treatment.—Domestic treatment should never be trusted in such terrific affections as these. Not a moment should be lost in sending for the medical man

If anything may be done in the meantime, it is,—first, in either of the two former cases, to lance the gums; second, to evacuate the bowels by warm-water injection, made more active by the addition of brown sugar; third, and to administer the warm bath. An important point, never to be forgotten in the hurry of these cases is to reserve the evacuations for inspection, otherwise the physician will be deprived of a very important source of judgment.

In cases of fits arising plainly from exhaustion, there need be no hesitation in giving five drops of sal volatile in water; light nourish-

ment may be added; the feet must be fomented, and the recumbent posture preserved. In fits arising from an affection of the heart, the symptom is urgent difficulty of breathing; the child seems as if it would lose its breath and expire. In such a case, to do nothing is the best course; all self-possession must be summoned, and the infant kept perfectly quiet. Every change of posture, every effort, is attended with danger.

In all cases, it is well to clear the bowels by means of the slow injection of from a quarter to half a pint of warm water, with or without brown sugar; indeed, this the most generally and promptly useful of all our remedies in infantile diseases. To this the warm bath may always be added, if administered with due caution: it should not be continued so as to induce much flushing or paleness of the countenance.

FALLING OF THE FUNDAMENT.

Prolapsus of the lower gut at the fundament most frequently occurs with children and aged persons, although it does occur at all ages, and commonly in connection with piles, irritation from worms, or stone in the bladder; much straining at motions of the bowels will also occasion it.

Fig. 97.



Treatment.—The gut may generally be returned without difficulty, by means of gentle pressure with the fingers, covered with a piece of greased rag. If allowed to remain down long, it will become swollen with congested blood, and require the aid of a physician. Children so affected should have their bowels kept in a lax state with gentle aperients, and they should not be suffered to remain long on the stool; The loins should also be bathed with cold water; and an enema, consisting of a grain of sulphate of iron, dissolved in an ounce of rain-water, should be thrown into the bowels after each motion.

For this kind of prolapsus a pessary is seldom necessary, but a bandage like Fig. 97 may be used with advantage. Here we have a centre-piece, tolerably broad, to which is attached an oval pad of some smooth hard material; a back-strap passes up, and fastens to a belt round the body; and another strap, in two divisions, goes up the front, and also fastens to the belt. This, if properly managed, will exert all the pressure necessary to keep the gut from protruding.

PART IV.

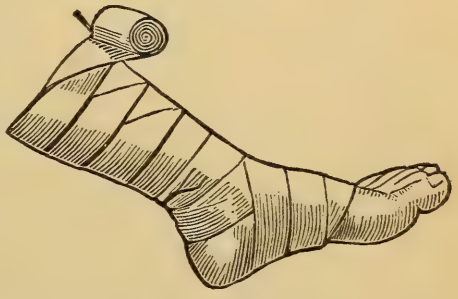
ACCIDENTS AND EMERGENCIES.

HOUSEHOLD SURGERY.

HOW TO BANDAGE.

There is not a more important art connected with household surgery than that of bandaging. To do it well requires much practice and no little judgment. The material employed in bandaging is usually stout unbleached cotton, from two or three to nine or ten inches wide, and from six to twelve yards long: the former length and breadth will do best for the leg. If commenced at the ball of the foot, and evenly applied so that each fold overlaps the other about one third, it will reach to the knee. Fig. 98 will best show the mode of application. The bandage having been first tightly rolled up, is taken in the right hand of the operator; the end is passed under the foot, and held there by the left hand until it is secured by one turn of the bandage over it; an upward direction is then taken, so that a couple of folds brings the bandage up to the front of the leg, over the instep; the next turn will naturally pass above the heel behind; and then, if proper care be observed, it will go on fold above fold, each overlapping the other slightly, all up the leg. The bandage is passed from the right to the left hand each time it goes round the leg, and great care should be taken to hold it firmly, and equalize the pressure, as well as to smooth out any wrinkles that may occur in the process of binding.

Fig. 98.



A firm and even support is thus afforded to the limb, which is not likely to crease, or get displaced by the motion which may be afterwards necessary; it may be made fast above the calf by a couple of pins, or a needle and thread. Great care should be taken in this, as in all similar operations, to get the bandage rolled up tightly and smoothly, before commencing; it may thus be grasped in the hand, and kept well under the command of the operator, who should on no account let go his hold of the bandage, so as to relax the pressure.

Fig. 99.



The arm does not require so long or broad a bandage as the leg; about two inches, by three or four yards, being the average size: this limb is rather more difficult to manage, half turns being necessary to effect a proper envelopment. How this is effected may be seen by Fig. 99. The bandage is folded back upon itself, so as to take a different direction, and cover the space which would be left exposed by the ordinary method of folding; these half turns, unless they are done tightly and evenly, will be apt to slip and derange the whole binding. Some operators avoid half turns, by letting the roller take its natural course, and then coming back to cover the exposed parts; but this method, besides requiring a larger bandage, does not effect the required purpose so neatly and efficiently. One mode of fastening a bandage is to split it up a short distance, so as to leave two ends, which can be passed round the limb, and tied. It should always be borne in mind that the chief art in applying bandages is to give firm and uniform support, without undue pressure upon any part; and to effect this properly, the strain in winding should be upon the whole roll held in the hand, and not upon the unrolled portion of it. This strain should not be relaxed during the progress of the operation.

Fig. 100.

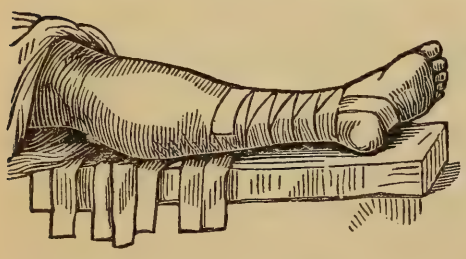
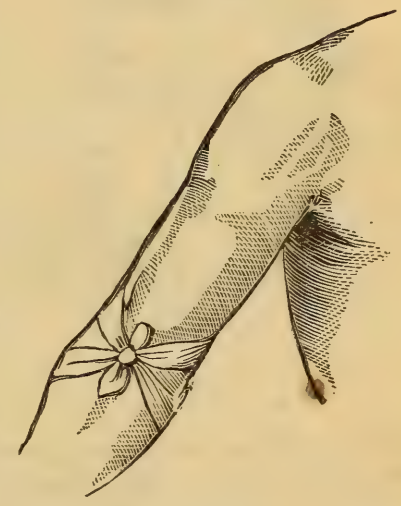


Fig. 100 represents the mode of applying what is called a many-tailed bandage,—useful to apply over a wound, or wherever it requires frequent changing, or in cases

in which it is desirable not to exhaust the patient by much movement of the limb. This is a strip of cotton somewhat longer than the limb to be enveloped: on it are sewn, at right angles, other strips, about one half longer than the circumference of the limb, each overlapping the other about one third of its breadth, so that when drawn tightly over in regular succession, each secures the other. The end of the strip passes under the heel, and coming up on the other side, is made fast to the bandage there, and so all is kept firm.

Fig. 101.



For keeping poultices on the lower part of the back, or in the groin, a cross bandage is used, the fashion of which is this: make a cotton band, large enough to pass round the loins, and tie a buckle in front; to this is attached another piece, which proceeds from the centre of the back to the anus, where it divides into two, which pass under the thighs, up on either side, and are fastened to the band in front. The bandage used to close a vein after bleeding is made thus: lay the tape obliquely across the wound, pass it round the arm above the elbow, and bring it back again over the same spot; then let it go round the arm below the elbow, and returning, let the two ends be tied in a secure bow, in the bend of the arm, with the free movement of which the bandage should not be tight enough to interfere, although it must be sufficiently so to retain its position. This mode of bandaging is called the figure of **8**, from its resemblance to that figure. Fig. 101 will probable make our explanation clearer.

For a sprained ankle, place the end of the bandage upon the instep, then carry it round, and bring it over the same part again, and from thence round the foot two or three times, finishing off with a turn or two round the leg above the ankle.

For a sprained wrist, begin by passing the bandage round the hand, across and across, like the figure **8**; exclude the thumb, and finish with a turn or two round the wrist.

For a cut finger, pass the bandage (a narrow one) round the finger several times, winding from the top, and splitting the end; fasten by

tying round the thick part above the cut; or, if it be high up, tie round the wrist.

The best bandage for the eyes is an old silk handkerchief passed over the forehead, and tied at the back of the head. For the head itself, it is best to have a cross-bandage, or rather two bandages,—one passing across the forehead, and round the back of the head,

Fig. 102.

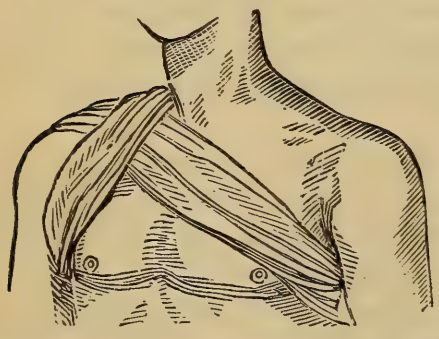


Fig. 103.



and the other over the top of the head, and below the chin, as in Fig. 102. Or, better than this is, perhaps, a large handkerchief which will extend all over the forehead and crown, two ends of it passing to the back, and after crossing from thence round the neck, then tying the other two beneath the chin, as in Fig. 103.

Fig. 104.



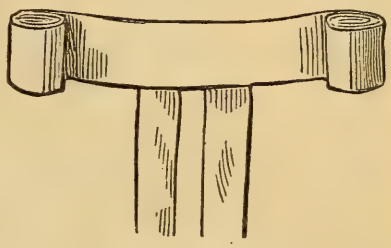
For a bandage to support a pad or poultice under the arm-pit, a handkerchief may be used, put on as in Fig. 104; or a broad piece of cotton, arranged in the same way.

For fracture of the ribs, bandages should be about nine inches wide, and drawn round the body very tightly. In this case, as in that of any other fracture or dislocation, only a properly qualified person should attempt their application. See articles on *Dislocations* and *Fractures*.

We have not yet spoken of the **T** bandage, which is simply a broad band to pass round the body or elsewhere, having attached to it one

of the same width, or narrower, like the upright part of the letter after which it is named; or, there may be two stems—if they can be so called—in which case it is a double **T** bandage, as in Fig. 105.

Fig. 105.



Starch bandages are those in which the roller, before it is put on, is saturated in a strong solution of starch. Sometimes a covering of brown paper is put over this, and another dry bandage is applied. This makes a firm and compact case for the limb. It is useful in cases of fracture, especially if the patient has to be removed to a distance. Sometimes, when it is not desirable to make the covering so thick and durable, the displacement of the bandages is guarded against by brushing a weak solution of starch or gum over the folds.

Bandaging should be performed, in nearly all cases, from the extremities upwards, or inwards to the heart, except where the injury is situated above the seat of vital action. If they give much pain, there is reason to suspect inflammatory swelling beneath; and they should be loosened, if moistening with cold water does not relieve the pain. Flannel for bandages is used where warmth as well as support is required.

BURNS AND SCALDS.

There are no more frequent, distressing, and dangerous accidents, than those which result in the above. They cause great pain, often amounting to agony; local injuries of a most serious character, and permanent constitutional derangement, even if death does not immediately or quickly ensue. The first rule to be observed in the event of the clothes catching fire, is to avoid running away for assistance, as the motion will only fan the flame, and increase the evil. Presence of mind in the sufferer is rare on such an occasion, but the best plan is to lie down and roll on the floor,—screaming, of course, for assistance. Whoever answers the call should snatch up a rug, or piece of carpet, or other woollen article, and completely envelope the person in it. This will be sure to extinguish the flame. Then cut the clothing away from the burnt parts, taking care to use no violence where it adheres, nor to break any blisters which may be raised. The great object is now to exclude the air from the blistered or raw surfaces, and it is a usual plan to cover them with flour, and

then wrap them in wadding, or cotton-wool. A good application is either of the above substances saturated in lime-water and linseed-oil, equal parts mixed; this is extremely cool and soothing, and it greatly assists the healing operation. It should not be disturbed for some days, unless the discharge should be great, and the wounds painful, in which case a fresh application of the same should be prepared, and put on immediately on the removal of the other. The wadding or cotton-wool covering is sometimes applied quite dry, with good effect; and where the tissues are not deeply or extensively injured, a lotion composed of an ounce and a half of vinegar to a pint of water is a good application, as is also a saturated solution of carbonate of soda. The flour dredging is that which is the most readily available, and it is as good as any. It should be applied immediately, and repeated as often as moisture is perceived issuing through the crust which it forms over the burnt parts; if these have fresh sweet oil brushed over them with a feather, previous to the application of the flour, it will adhere better.

That which is most to be apprehended in severe burns is the great constitutional depression which often follows the excitement and severe pain; especially is this the case with children, and when the seat of this injury is the chest or abdomen, or other vital part. Hence the effects should be closely watched, and stimulants administered, if there are such symptoms as shivering, pallor of the countenance, sinking of the pulse, or coldness of the extremities. Ammonia, wine, or spirits, must then be given in doses sufficient to rouse the failing powers, without too much exciting the brain. If there is excessive pain, a slight opiate should be administered to allay the irritation of the nervous system, which, however, frequently receives so severe a shock as to lose its sensibility for a time; and when this is the case there is great reason to apprehend a fatal result. A burn, if properly treated, and unless very severe, will generally do well, and require little after dressing; but if the blisters are suffered to break, and the true skin beneath becomes inflamed by exposure, matter will be secreted, and troublesome ulcerations formed. Bread-and-water poulticing will be the best treatment in this case, with Goulard lotion, if there is much inflammation, or an ointment composed of extract of Goulard, one drachm, mixed with one ounce of fresh lard. This should be applied spread on soft linen.

When the burn is deep, after the flour has been on for some days, poultices as above should be applied until the coating of flour all

comes away, and the wound looks clean and clear; after which, the simple water dressing will be best, and when nearly healed, the Goulard ointment as above.

When parts immediately contiguous are involved in the burn, care must be taken to interpose dressings, or they may become permanently united.

After the more immediate constitutional effects of a severe burn have passed off, it will be necessary to be careful as to the patient's diet, which should be sufficiently nourishing and stimulative, especially while discharge is going on,—taking care, however, to reduce it if febrile symptoms should set in. So constantly are these painful accidents occurring, and so frequently does it happen that the care of a medical man can not be obtained for them, that it behoves all heads of families to make themselves acquainted with the best remedial measures. It should be borne in mind that the principal aims in the treatment of such cases are, first, the protection of the injured parts from atmospheric influence; secondly, to keep down inflammatory action, both local and constitutional; thirdly, to soothe the nervous irritation which may arise, and to sustain the system should too great depression take place.

BRUISES.

The main thing to be attended to in treating a bruise, is to prevent inflammation coming on. Apply constantly to the part equal portions of Goulard-water and vinegar, or spirits and water. Or, bathe the part in warm water, and afterwards rub it gently with cold vinegar and water once every hour or so for a few days. Bruises are also well treated by the following lotion: tincture of arnica, one part; water, eight parts; apply with a cloth. Pouring cold water from a height two or three times a day on the bruise is very good.

APPARENT DEATH FROM DROWNING.

The following plan of treating a drowned person was proposed by the late Dr. Marshall Hall:—

1. Treat the patient instantly, on the spot, in the open air, except in severe weather, freely exposing the face, neck, and chest, to the breeze.

2. Send with all speed for medical aid, and for articles of clothing, blankets, &c.

3. Place the patient gently on the face, with one arm under the forehead, so that any fluids may flow from the throat and mouth; and, without loss of time,—

I. *To excite respiration:*

4. Turn the patient on his side, and (*a*) apply snuff or other irritant to the nostrils; (*b*) dash cold water on the face, previously rubbed briskly until it is warm. If there be no success, again lose no time, but,—

II. *To imitate respiration:*

5. Replace the patient on his face (when the tongue will then fall forward, and leave the entrance into the windpipe free); then,—

6. Turn the body gently, but completely, on the side and a little beyond (when *in*spiration will occur), and then on the face, making gentle pressure along the back, when *ex*piration will take place, alternately. These measures must be repeated deliberately, efficiently, and perseveringly, fifteen times in the minute only. Meanwhile,—

III. *To induce circulation and warmth,* continuing these measures,—

7. Rub the limbs *upwards* with firm pressure and with energy, using handkerchiefs, &c., for towels.

8. Replace the patient's wet clothing by such other covering as can be instantly procured, each bystander supplying a coat, waistcoat, &c.

Returning life is first usually discoverable by the symptoms of sighing, gasping, slight palpitation or pulsation of the heart. The efforts to restore life should then be redoubled, for the feeble spark still requires to be solicited and nourished into a flame, and it has often gone out from a relaxation of labor. A spoonful or two of warm wine, or warm wine and water, should be introduced into the mouth, as soon as the power of swallowing is sufficiently restored, which should be shortly succeeded by light, warm, and nourishing food of any kind, with gentle laxative clysters, a well-heated bed, and perfect tranquillity.

APPARENT DEATH FROM LIGHTNING.

When a person is struck by lightning strip the body and throw buckets of cold water over it from ten to fifteen minutes; inflate the lungs, as described in the directions respecting drowning, and apply continual frictions all over the body; apply also blisters to the breast, and administer stimulants, as brandy and sal-volatile. In

this case, nothing answers so well as electricity, and if a skillful person can be procured to administer them, gentle shocks should be made to pass through the chest, until returning life manifests itself.

As trees, haystacks, and other elevated objects serve to conduct lightning rather than ward it off, a person overtaken by a thunder-storm should never seek shelter near these; it is much better to get wet to the skin than expose one's self to this danger. It is also dangerous to stand near leaden spouts, iron gates, or pallisades, at such times,—metals at all times having so strong a conducting power for lightning as frequently to lead it out of the course which it would otherwise have taken. When in the house, avoid sitting or standing near a window or door; the nearer you are placed towards the centre of the room the better.

APPARENT DEATH FROM EXPOSURE TO NOXIOUS VAPORS.

Let the body be placed in the open air; dash cold water over the face, head, neck, and breast frequently, and let warmth be gradually applied. If necessary, let the lungs be inflated according to the directions laid down in the article on drowning.

APPARENT DEATH FROM COLD.

Let the body of the person be rubbed with snow, ice, or cold water, and after a while let heat be applied in the most gentle manner; then, if necessary, the means for restoring suspended animation from drowning may be resorted to. Nothing can be more pernicious than applying heat, either internally or externally, in the first stage.

APPARENT DEATH FROM HANGING OR STRANGLING.

Remove the tie or neck-cloth from the neck, place the body in the open air, expose the chest, and open a vein in the arm as soon as possible. If necessary, resort to the means recommended in restoring suspended animation from drowning.

In hanging, cut the body down, dash cold water upon it, open a vein. and apply stimulants liberally externally.

APPARENT DEATH FROM A BLOW OR FALL.

Stunning, or insensibility, is usually caused by a blow on the head. It may be of greater or less severity, and requires prompt relief.

Treatment.—Place the sufferer in a recumbent position, with the head raised. Dash cold water from the hand over the face, or place a wetted handkerchief on the forehead; apply warmth to the feet and legs, and hartshorn or smelling-salts to the nostrils. Keep the patient quiet, and recovery partially or wholly will soon ensue.

APPARENT DEATH FROM HUNGER.

Great caution must be used in administering food. If fed too freely, a fatal result is probable. Injections of small quantities of milk, mutton-broth, or beef-tea, may be used. When the patient can swallow, give drop by drop of warm milk, and increase the quantity till he can take a teaspoonful, when a few drops of brandy may be added. Small quantities of nourishment may be given every ten or fifteen minutes.

ABRASION OF THE SKIN.

This is a wound of the skin caused by friction.

Treatment.—Remove any sand or dirt from the part by bathing it in warm water; then apply spirits and water to it till the pain is somewhat abated; lay a piece of dry lint over it, or lint wetted with water, and over that a piece of oiled silk to retain the moisture. If there is much pain or swelling from inflammation, apply a bread-and-water poultice, or a piece of linen moistened with Goulard-water. When this comes off, if the skin is not healed, dress with simple ointment. Or, take tincture of arnica or wolf's-bane, dilute it with twenty parts of water or thirty parts, where the skin is broken; apply the liquid with a linen rag wrapped round the injured part. If this mixture should prove too strong, dilute it with more water.

CUT THROAT.

Treatment.—The danger to be apprehended in this case is death from hæmorrhage; or, if the wound is sufficiently deep to open the windpipe, from suffocation, from an influx of blood into the passage. In the latter case, any pressure upon the part would but hasten the crisis; but, if the windpipe is not deeply wounded, this may be applied. Should there be a gushing out of dark blood, showing that a superficial vein is wounded, place the fingers on the course of the vein, a little above the cut, between it and the head, and keep a firm, though gentle, even pressure, there. If there is bright red

blood coming forth in jets, an attempt should be made to tie the divided arteries, for it would be impossible to apply a sufficient amount of pressure to stop the bleeding. For directions, see page 000. It is possible that the windpipe may be severed without bleeding to such an amount as to produce death. In this case, place the patient on his face or on one side, with the neck bent forward, so that the blood will naturally take an outward direction; when it has stopped, do not at once close the wound, but put a piece of cambric lightly over it, and, at the end of three or four hours, stitch it up. Dress as directed for wounds.

CHOKING.

This accident, caused by substances getting into the gullet, or stopped between the mouth and the stomach, is extremely dangerous, and generally the effect of carelessness.

Treatment.—Slap the back smartly but not too heavily, and in the mean time let the person swallow some crumbs of bread, and drink a draught of water. Or, press a finger immediately down the throat as far as possible Or, take large draughts of water, and make great efforts to swallow. The quantity of water distends the gullet above the lodged food, alters its position, and both water and food pass into the stomach with a sudden jerk. If the foregoing efforts fail, make a hook with a strong iron wire, or a thin and narrow flat piece of iron, sufficiently long not to slip out of the operator's hand. The hook should be covered by sewing over it a piece of wash-leather or tape. This is to be introduced into the throat, and by that means the obstruction removed. A strong emetic will sometimes effect the purpose when other means fail; mustard mixed with warm water is as efficacious as any.

FROST-BITE.

Lengthened exposure to the cold is apt to render parts of the body numb and inanimate. The fingers, toes, lips, nose, and ears, are especially liable to be affected.

Treatment.—To restore the natural warmth of the part gradually must be the main object; and on no account must a considerable degree of heat be applied suddenly, as it would either kill the part outright, or cause violent inflammation to result. Friction with snow or cold water merely should be used, until the circulation is somewhat restored, and then equal parts of brandy or some other

spirit mixed with cold water may be applied, until the restoration is completed. Frost-bites are apt to leave troublesome sores, which are difficult to heal. The red percipitate ointment is the best application; and, if much inflamed, they should be poulticed.

SUDDEN ACCIDENTS AND INJURIES.

These generally take place in travelling. The first thing is to remove any pressure on the body, and allow the air to come freely to the injured portion. If violent bleeding be perceived from any part, endeavor to arrest it, by placing on it a pad of folded linen and a bandage (see Fig. 106). Should it be a limb, and the blood be of a bright scarlet, tie a bandage tightly above the part; the tightness may be increased by inserting a piece of stick, and twisting it round, as in Fig. 107. Should no medical man be obtainable, the bleeding must be stopped by using a little hook called a tenaculum, the nearest approach to which is a shoemaker's sewing-awl. This is put into the wound, and the vessel from which the blood flows hooked and drawn forward; a piece of silk is then tied round the vessel, and if the blood ceases to flow, the wound is drawn together, and bound over with plaster. If blood is still ejected from the wound, there must be other arteries injured, which must be treated in the same manner before the wound be closed. Often pressure, long continued with the finger, will stop the bleeding, as in Fig. 108. If no wound be perceptible, and the lips and face pale, the hands and feet cold, lay the person out flat, apply warmth to the body, and administer a little brandy and water every few minutes, and afterwards beef-tea, for if the person has only fainted he will speedily recover; but if the injury be greater, the remedies must be persevered in for hours, and every attention rendered. Should the effects proceed from a blow, that is, the person be stunned, then raise the

Fig. 106.

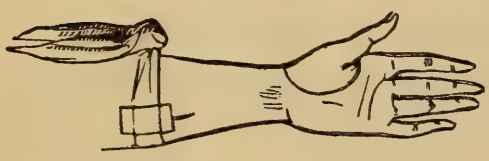


Fig. 107.

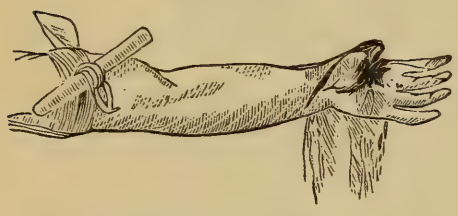


Fig. 108.



head, apply warmth to the feet, and some pungent smelling-salts to the nose. If the flesh be cut, bathe with a sponge and cold water until all the dirt be cleared away and the bleeding stop; then bring the edges of the wound carefully together, and keep them so by strips of sticking-plaster (see Fig. 109). On the extremities, a piece of linen may be laid over the wound, and then bandaged. But should the wound be extensive, take a needle threaded with silk, dip it in

Fig. 109.

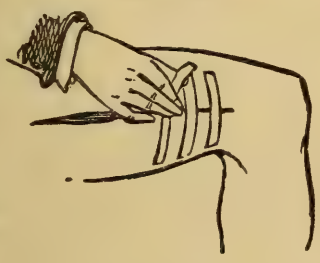
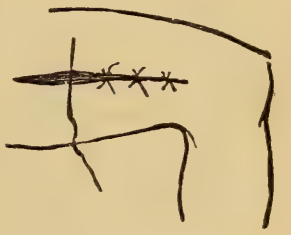


Fig. 110.



oil, and enter the skin about one-eighth of an inch deep, tie each stitch with a knot (see Fig. 110), and about thirty hours afterwards cut the silk, and draw out the thread. If the part have a throbbing sensation, bathe it with cold water. In cases where the flesh is torn, bring the parts gently together, and lightly strap them with sticking-plaster. If a part be bruised, let it remain as much at rest as possible; but, if severe, get the person to bed, and apply a cloth dipped in cold water every few minutes. Should the part bleed, the vessel can be tied as before directed. Many persons feel themselves shaken without any positive injury; but we would advise, in this case, that at least an hour's rest be taken on a couch or bed.

CUTS.

For small and simple cuts, use the following

Treatment.—Tie it up at once with a piece of linen rag; this is usually sufficient to stay the bleeding. The small quantity of blood which may exude quickly dries up the wound, and forms a sort of glue which effectually excludes the air. As no better dressing can be used, it may be left on till the cut is well. If the bleeding should be excessive, it should be checked by the use of cold water or astringents, such as turpentine or Friar's balsam, and the edges of the cut surface brought firmly into contact by strips of sticking-plaster, and, if necessary, bandaged.

CUTS FROM THE FLESH.

If a piece of flesh be cut out, wash it, and the part from which it was cut, without a moment's loss of time, replace it exactly in its proper place, and keep it there with a piece of sticking-plaster. If the piece can not be replaced, bathe the part with cold water until the bleeding stops, and place over it a piece of soft linen, as directed on p. 406.

STABS.

The danger of such accidents is, that there may be some important deeply-seated part injured. They are treated as common wounds: the bleeding stopped by cold water and a sponge, then the edges brought together with strapping, and bound up. If inflammation set in, foment with cold water for a day or two, then with warm water, and apply poultices. At times, when apparently healing, there will be a painful sensation; and matter formed below will force its way out; this may happen more than once. The patient should be kept quiet in bed for several days.

BANDY LEGS.

A child is sometimes born bandy, but more frequently becomes so through being suffered to walk or stand before the legs have strength sufficient to support the body. In either case, the evil may be removed or considerably amended by proper care and attention.

Treatment.—Bathe the legs two or three times a day in bay-salt and water, and afterwards rub them briskly with the hand. Where sea-bathing can be obtained, it is of course the best; and where it is inconvenient to take the child to the sea, sea-water can be brought into the house for the purpose. With regard to irons, splints, bandages, &c., it is better not to apply these except under medical advice and supervision. In many cases these appliances will do more harm than good.

With females, bandy legs are more serious deformities than with males, as they are connected with malformation of the pelvis, and other bones which enclose the uterus, and so interfere with the formation, growth, or delivery of the fœtus.

PROUD FLESH.

This is a name applied to the red granulations which often appear on the surface of wounds and ulcers. If they rise above the level of the skin they may be destroyed by a caustic application, such

as the nitrate of silver or sulphate of copper (blue stone); a few grains of red precipitate, or a little powdered lump-sugar. The first-named of the above is the most effectual, but care should be taken, in applying it, only to touch the spots themselves.

INGROWING NAILS.

It often happens that a tight or ill-made shoe, by continual pressure on one part of the nail, forces it into the flesh, and then causes great pain and inconvenience.

Treatment for the Toe.—First procure an easier shoe, which will allow the nail to take its natural course; then take a piece of glass, and with it scrape the whole length of the middle of the nail persistently, and yet with a delicate hand. By this means, the centre of the nail will eventually be rendered so thin, that it may be readily bent, and in this flexible condition it gives way to the upward pressure of the skin on its outward edges, readily bends, and offers no further resistance. The cause of irritation being withdrawn, the tenderness soon heals, and the proud flesh drops down.

An ingrowing nail may be caused by an improper mode of cutting it. Nails should never be clipped at the corners, but cut straight across the top, if anything, slightly scooped in the middle. This leaves a sufficient amount of resistance at the corners; for wear what shoes we may, there must always be a certain degree of pressure on the nail, which should be provided for.

Treatment for the Finger.—Wrap the affected finger in a compress moistened with a lotion made as follows: Liquor of ammonia, one ounce; camphorated alcohol, one dra[illegible]hm; bay salt, quarter of an ounce; water three-quarters of a pint; mix, and shake well together. After ten minutes, remove this, and replace it by a compress annointed with camphor pomatum, and kept in place till next dressing by a rubber finger-stall drawn over it. Then dissolve one and a quarter ounces of camphor in a gill of brandy, wet a narrow band with this solution, place it round the root of the nail, and let it remain there until the next dressing.

The finger-nails should be cut of an oval shape, corresponding with the form of the finger; they should not be allowed to grow too long, as they thereby are rendered more liable to accident, neither should they be too short, as they thus deprive the ends of the fingers of their protection and support. When the nails are naturally ragged or ill-formed, they should be gently scraped, afterwards rubbed with

lemon, then rinsed with water, and well dried with a towel. If the nails grow more to one side than the other, they should be cut in such a manner as to make the points come as near as possible to the centre of the end of the finger.

DISLOCATIONS.

By this term, we understand a displacement, by violence, of one part of a joint from its natural connection to the other. By a knowledge of the structure of the joint, we are enabled to lay down rules by which the displaced bone may be returned or reduced. The ligaments which have been torn asunder re-unite, and the joint regains its healthy structure. The sooner this is done the better, and the easier will it be effected; but the attempt may be made even after the expiration of three or four weeks, if in the larger joints. After this period, the displaced bone adheres to the part it is in contact with, and the attempt should not be made but by an experienced surgeon. After the reduction, inflammation of a mild character may follow, which the application of a few leeches will suffice to remove. The joint may be bound up lightly with a wet band, and cold water, or vinegar and water, applied.

Dislocation of the Lower Jaw.

Symptoms.—The mouth is fixed open, pain in front of the ear, and extending up to the temples. This state of the jaw occurs suddenly, while gaping, eating, or talking, while the jaw is in motion, and is apt to recur.

Treatment.—Place the patient on a low seat, cover the two thumbs with a silk pocket-handkerchief, pass the thumbs into the mouth, and press with force, slowly applied, on the last four lower teeth, and at the same time raise the chin, pushing the jaw backwards. Considerable pressure is required by the thumbs; two pieces of wood may be employed as a substitute for the thumbs.

Dislocation of the End of the Collar-Bone.

Either end of the collar-bone may be dislocated by a blow or a fall, indicated by a swelling over the joints which the bone forms either with the breast-bone or shoulder-blade, and by the suddenness of its occurrence. The treatment is very much like that of the fracture of the collar-bone, to which reference must be made. A pad of lint should be put on the swelling, and the arm raised high in a sling. This accident will require three weeks' rest.

Dislocation of the Shoulder.

Symptoms.—Flatness of the shoulder, compared with the roundness of the sound side; inability to move the arm; the elbow placed at from two to three inches from the side; the attempt to press it to the side occasioning pain in the shoulder. If the fingers be passed up under the arm to the armpit, the head of the bone will be felt out of the socket, and may be revolved to make it perceptible.

Treatment.—A round or jack towel, through which the arm should be drawn; the towel carried up to the armpit and twisted over the shoulder, and the two ends thus twisted passed over the back of the neck, and fixed into a staple by a rope, or otherwise. Wash-leather, or other soft materal, to be wound around the arm, just below the elbow; a close hitch-knot of good quarter-inch line made upon it. The patient to be placed in a chair and held firmly, or to lie down on a bed, and fixed. The arm may be drawn slowly and steadily, at an angle half way between horizontal and vertical, and the extension to be continued for ten minutes to a quarter of an hour,—during which, frequently, the surgeon or superintendent should raise the arm, near the upper or dislocated end, upwards, with his two hands, with some force: the head will return into the socket with a sound, or slight shock. If the head of the bone be thrown forward on the chest, the extension to be carried a little backward; if backwards, a little forward. After reduction, a sling and three weeks' to a months' rest. The reduction may also be effected by laying the patient on the ground on his back, while the operator places his right heel in the left armpit (as in Fig. 111), if the dislocation occur on the left side, and his left heel in the right armpit, if it occur on the right side, and makes a powerful extension on the affected arm by both hands.

Fig. 111.

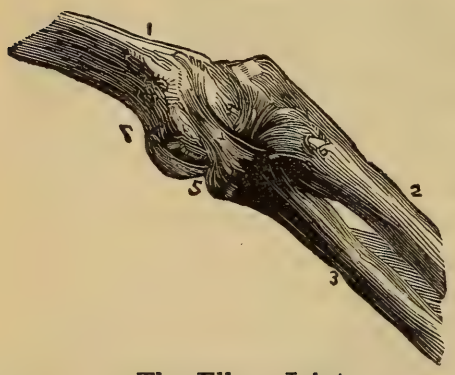


Dislocation of the Elbow-Joint.

The elbow-joint consists of three bones—the bone of the arm spreading out across the joint, and the radius outside, the ulna inside. The most common dislocation is when both radius and ulna are thrown backwards.

Symptoms.—The joint motionless, a little bent; skin tight in front of the joint; a projection behind formed by the elbow, which, with its tendon, is pushed back. The joint can neither be bent nor straightened.

Fig. 112.



The Elbow-Joint.

1, the Humerus, or upper bone of the arm; 2, the Ulna; 3, the Radius;—these two being the lower bones, they are all held together by ligaments connected with both extremities of the bones, and with the shaft; 4 marks the insertion of the external lateral ligament, which passes beneath into the orbicular ligament 5, of which the hinder part (6) is spread out at its insertion into the Ulna; 7 marks the situation of the anterior ligament, scarcely seen in this view; and 8 is the posterior ligament, thrown into folds by the extension of the joint. There are other ligaments not shown here; nor are the muscles by which the complicated movements of the joint are effected.

Treatment.—Two men will be sufficient generally, unless the patient be very muscular. Extension to be made in a straight direction by both. The force required is not generally very great, and the reduction takes place commonly with a snap. Both bones may be forced forwards—when this accident occurs, the elbow (*olecranon*) is broken. The imperfect line of the joint will be readily observed when a comparison is made with the opposite joint.

Reduction. — Simple extension, as before; and, when reduced, the joint should be placed straight, and bound on to a splint. This accident will require from five to six weeks. Other accidents of this kind occur to the elbow-joint, but they may all be treated on the same principle, namely, forcing the bones back to their natural position, which may be ascertained on comparison with the opposite sound limb, or the limb of another person.

Dislocation of the Fingers and Toes.

Dislocation of the fingers and toes are of rare occurrence; and, when they do happen, it is generally between the first and second joint. They may be easily known by the projection of the dislocated bones, and reduced without much difficulty, if done soon after the accident.

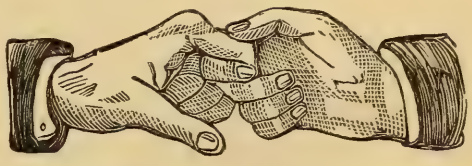
Treatment.—Fig. 113 will show the method of reduction; the clove-hitch, made with a piece of stout tape, may be used if there is much

difficulty; the wrist during the operation should have a slight forward inclination given to it. This will relax the flexor muscles.

Dislocation of the Wrist-Joint.

The hand may be forced backwards or forwards, but this accident is very uncommon. The nature of the case will be apparent to the slightest observation.

Fig. 113.



Treatment.—The hand should be grasped firmly by a powerful man, and drawn straight. If the hand slips, a bandage may be applied around it to aid the application of the extending force: but all that is required is full extension, by which the hand may be drawn straight. The same observation will apply to dislocation of the fingers.

Dislocation of the Hip-Joint.

These dislocations are very important and very numerous, being not less than four in number. The hip-joint consists of the head of the thigh-bone and the socket formed by the pelvis, or continuation of the haunch-bone, towards the middle of the body. These accidents generally arise from a fall from a height, or a very severe blow, and are attended with severe injury to the structure of the joint and surrounding parts, although the consequences are not generally so severe as fracture of the neck of the thigh, detailed above.

The head may be thrown from the socket in four directions: First—upwards and backwards. Second—backwards. Third—downwards and inwards. Fourth—upwards and inwards. The most frequent is the first—upwards and backwards.

Symptoms.—Shortening of the leg to the extent of about two inches. The foot is turned in, and lies over the opposite foot; the ball of the great toe towards the opposite instep; the leg can not be turned out, nor the attempt made without pain. On examining the side of the buttock where the head is thrown, it will be felt on the bone, with the great projection formed by the end of the shaft of the bone, placed in front of it. If the leg is rotated, the head and the great process, or prominence (trochanter), will be felt to revolve also. The line of the thigh is altogether too far outwards.

Treatment.—A round or jack towel should be applied, as in the case of the dislocation of the shoulder, and drawn up around the thigh

as high as possible, and twisted over the hip-bone somewhat tightly, and fixed behind into a staple. Wash-leather, or a soft towel, to be wound around the thigh, about the knee, and around this the cord or line with two clove-hitches, one on each side of the thigh. The aid of six men will be required, who must draw very slowly and very cautiously. The patient should be placed nearly on the sound side, and the limb should be drawn a little across the other limb; and after it has begun to descend, yet a little more across the opposite leg. When the thigh is fully extended it will generally reduce itself, and may be heard to return into the socket with a snap. Should it not do so, the superintendent should take the thigh high up towards the trunk in his hands, and raise it, and use a round towel, passed under the limb and over his neck, and raise it, *twisting it outwards* at the same time.

Dislocation Backwards.

Symptoms.—The symptoms are nearly the same, except that the shortening is less, and the turning in of the foot less also; but both the symptoms exist in a degree. The head of the bone lies lower down, and is less apparent to the hand when pressing on it.

Treatment.—The reduction is effected by the application of nearly the same means. The limb should, however, be drawn rather more over the opposite limb. When fully extended, it should be turned outwards, when the head will slip into the socket.

Dislocation Downwards and Inwards.

Symptoms.—The leg is a little lengthened, and is drawn forwards on the trunk; or, if placed straight downwards on the ground, the trunk will be bent forwards as in a stooping posture; the toe points a little outwards. The line of the thigh, when compared with its fellow, is directed too much inwards towards the middle of the body, and also too far backwards. The thigh should be moved in all directions, slightly, to ascertain that it is fixed in this position.

Treatment.—Apparatus applied as before, patient lying on his back; extension to be made *downward* and *outward*, and when brought down, after some minutes' extension, the thigh should be forced in its upper end, outwards, by the hand, or the towel being placed between the thigh and drawn in the direction opposite to that of the dislocation, namely, upwards and outwards.

Dislocation Upwards and Inwards.

This is the most formidable of all these dislocations.

Symptoms.—The leg is shortened, and, like the last dislocation, drawn forwards on the body, as though in the act of stepping to walk. Both these last symptoms are more strongly marked than in the former. A swelling, caused by the head of the bone, is apparent at the groin, and the bone is firmly fixed.

Treatment.—The same means as before, and nearly the same direction as the last accident, except that the limb should be drawn outwards and more *backwards*. These two last dislocations may be reduced in the sitting posture of the patient, and in that position drawn round a bed-post. A month's rest is required, or even more.

Dislocation of the Knee-Pan.

The knee-pan (*patella*) may be forced off the end of the thigh-bone either outwards or inwards; but the latter is very rare. Displacement outward is generally caused by sudden and violent action of the muscles of the thigh.

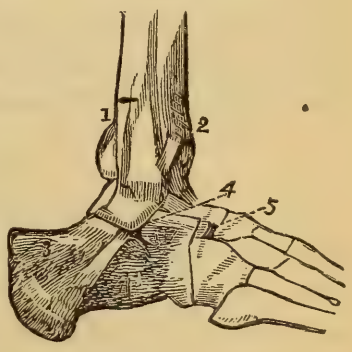
Symptoms.—The appearance of the bone on the outside of the knee joint, instead of in front, attended with pain, stiffness of the knee, and inability to walk without much pain.

Treatment.—The leg must be bent forwards on the trunk, and the knee straightened as much as possible; the bone is then to be forced back by the pressure of the hand. When it is returned, the knee should be very slightly bent, and placed over a pillow. From three weeks to a month will be required.

THE ANKLE.

The ankle is the joint which connects the foot with the leg. It is called a hinge-joint, and is formed of the extremities of the large and small bones of the latter (1, 2), and the smooth surface of the *Astralagus* (3), a bone of the former, articulated together, and kept in their places by strong ligaments (4, 5).

Fig. 114.



Dislocation of the Foot at the Ankle-Joint.

The foot may be forced inwards, outwards, forwards, and backwards. Of these, the second (outwards) is by far the most frequent.

It is generally accompanied by fracture of the small or outer bone of the leg, about four inches above the ankle-joint. On comparing the dislocated with the opposite foot, the distortion will be apparent.

Treatment.—The foot should be held firmly by a strong man, by the heel and by the front, and drawn steadily downwards, and forced back into its position. A little backward and forward movement of the foot or the ankle will facilitate its return.

The other dislocations may be ascertained by comparison with the opposite foot, and should all be reduced on the same principle, and by the same means, as the dislocation outwards, above described.

FRACTURES.

One of the commonest accidents, to which all are liable, is a fracture of one or other of the bones, which is often produced by a slight fall, or some other trifling accident, especially in very cold weather, when the bones are more brittle than at any other time.

Treatment.—The patient should be laid on a door or shutter, the limbs tied together or placed as near as possible in a natural position, and carried by two or four bearers. For a few days, a limb should not be "put up," but loosely bandaged in its proper posture, and an evaporating lotion applied till the swelling begins to abate. The consequence of a broken bone is the entire incapacity of the limb or the part to perform its functions in the economy, until the bone is not only united, but so firmly knit as to render it fitted for a cautious return to its duties. A bone requires for this purpose a period proportionate to its size, bulk, &c., the extremes being from about three weeks to twelve—or what is termed *simple* fractures; but in *compound* fractures—where the soft parts about the broken bone are largely torn, communicating with the external air by a wound of the integument—these periods must be greatly extended.

Fractures of the Skull.

Little can be said on this subject, inasmuch as the injury is essentially dangerous in its nature, and the aid from surgery comparatively less than in ordinary fractures. If it be attended with deep sleep, snoring, and insensibility to pain, evidenced by pinching, &c., it may be inferred that a portion of bone is pressing on, or into the brain.

Whether the external skin be broken or not, an examination should be made, provided the situation of the blow be clearly indicated by the fracture being perceptible to the touch, or by blood being effused

under the skin. A cut should be made two or three inches in length down to the bone; if arteries bleed, they should be seized with a pair of forceps and tied with a piece of silk thread, the ends of which may be cut off. When the bone is exposed, by one or two incisions as may be required, the depressed bone should be raised by a chisel, or some similar instrument, to its natural level; any pieces of separated bone should be removed entirely, the surface sponged clean, and lastly, the skin or scalp brought together; the hair around having been shaved off, the wound is to be re-united by sticking-plaster. Twenty-four hours after, when inflammation appears, give doses of five to ten drops of tincture of viratrum viride, every one or two hours, if the pulse becomes full, and the skin hot, and the brain excited.

Fracture of the Finger.

After employing extension, and thus bringing the ends of the bone together, place a small smooth piece of wood, or of gutta percha, on the under, and another on the upper side, and proceed to bandage somewhat tightly, so as to keep the finger extended; put the arm in a sling, and keep it so for a month. If the injured part swells and becomes painful, the bandage must be loosened, and a cold lotion applied; this is generally by no means a difficult case to treat.

Fracture of the Bones of the Hand or Finger.

These bones, which intervene between the wrist and the fingers, should be treated in the following manner: place in the palm of the hand, a soft, but firm, spherical body, and closing the fingers and thumb over it, in a grasping position, keep them so with a bandage; by this means the natural arch is preserved, which it will not be if flat splints are applied. In this case, too, the arm had better be slung, and from a month to five weeks will be the time required to effect a union.

Fracture of the Fore-Arm.

Fracture of the fore-arm may be either of the ulna or the radius, or of both: the former is the outer and thicker bone of the two (see Fig. 116), and the fracture of this does not much disturb the general outline of the arm; it may be broken at any part of its length, or at the elbow process, called *Olecranon* (3), or at (4). In the first case the plan will be to bend the elbow, and bring the hand into such a position that the thumb points upwards; use extension until no

unevenness can be discovered in the course of the bone, and then apply two splints, the inner one reaching from the bend of the elbow to the tips of the fingers, and the outer from a little beyond the elbow to the middle of the back of the hand, which should be raised well towards the chest so as to make a sharp angle and draw the ulna from the radius. When the fracture is in this latter bone (2) the same method must be adopted, only that the hand must be depressed instead of raised, in order to keep the two bones apart. When these are both fractured, the setting is, of course, more difficult, and much time has often to be spent in extension and manipulation, before the four broken ends can be brought properly together. The splints should be put on as above directed, bandaging the hand firmly to the longer one, and placing it so that it is neither raised nor depressed, but in a right line with the axis of the arm. When there is fracture of the *olecranon* there is little or no power of extension in the elbow, behind which a bony lump may be felt. A true osseous union in this case is scarcely to be looked for; but the injury will probably be repaired by a band of ligament. There is commonly inflammation and swelling, which must be reduced before pressure can be applied; the arm should be kept straight, and wet with cold lotion; and apply a splint as soon as it can be borne; let it be a long one, reaching on the inside from the shoulder to the hand. Bandage the arm in a straight position, beginning from the top, and making, as you go, extension downward, so as to get the broken bone into its place; it is long ere the limb is in a serviceable condition after a fracture like this. When the coronoid process is broken, the matter is more easily managed. The forearm must be bandaged in a bent position, and kept so. In about a month, slight exertion of the limb may be allowed, but there must be great care taken that it is not too violent.

Fig. 116.



The Fore-Arm.

Fracture of the Humerus.

Fracture of the humerus, or upper arm-bone, very commonly takes place in the shaft, or any part of which, within an inch and a half of the extremities. It is easily detected by the mobility of the limb at the seat of the injury, and the patient's incapability of raising the

elbow; the broken ends of the bone, too, may readily be felt, and the crepitation heard, when they are rubbed together. In this case, two wooden splints will be required—one to go before and the other behind; or, if the arm is very muscular, four may be necessary to embrace it properly; they should be padded with tow, wadding, or lint, as here represented, and furnished with tapes, to buckle or tie, as may be most convenient. The padding should be placed upon a soft piece of cotton or linen, a little longer than the splint at each end, and three times as broad; turn in the ends and sides, so that the pad is a little larger than the splint every way, and about half an inch thick, and make all fast by tacking; place the turned-in ends of the cotton next the wood, so that there is a smooth surface presented to the skin. The tapes, three in number, are put on to the splints double, so that there is a loop at one end (1), through which, after it has encircled the limb, the other end is passed (2), then drawn tight and tied to the remaining end (3) with a bow-knot, as shown in Fig. 118. A bandage, very easily loosened, may be made in this way of a strip of cotton or broad tape. The setting of the bone is not difficult in this case; the ends are easily brought together, and being so, the splints may be placed, and made firm by means of the looped tapes; these should not, at first, be drawn tighter than is required to keep the splints right, and prevent movement of the arm. After the first few days, when the swelling has subsided, a more permanent investment of the limb may be made. First give it a pretty firm roll of bandage, then place two splints, one on each side, of stout pasteboard, gutta-percha, or leather, cut so that they will come down and cover part of the fore-arm, as represented by the dotted lines in Fig. 119. The splints should have been previously shaped, or moulded, to the sound arm, and should be well fixed by more bandage, which, as it is rolled, should be brushed over with starch to prevent it slipping. Sometimes, where there is not much muscle, the

Fig. 117.

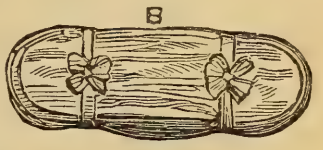


Fig. 118.

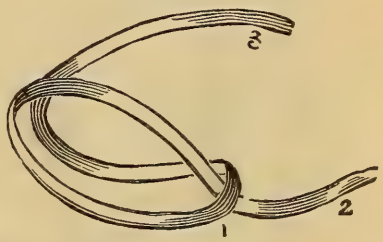
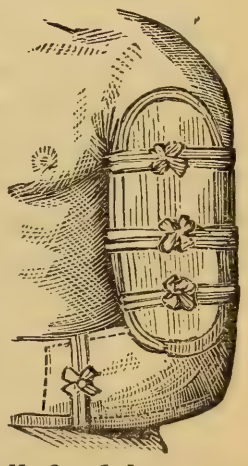


Fig. 119.



starch bandage is alone used; but, in this case, the whole of it must be well saturated with strong starch, paste, gum, or white of egg, with strips of brown paper stuck down across the folds here and there. Care must be taken not to move the arm until all this is dry and firmly set. The hand and wrist must be supported with a sling, but the elbow had better hang free, as its weight will tend to keep the bone straight and the muscles extended.

Fracture of the Neck of the Humerus.

Fracture of the neck of the humerus is that which takes place when the upper extremity, or head, is broken off. The symptoms here are very much like those which attend dislocation of the shoulder, and the treatment must be much the same. Draw down the shaft of the bone, and push up the head by means of a pad in the arm-pit; then bringing the arm close to the body, with the lower part at right angles with the upper, fix it to the chest by a splint on its outside, and a long bandage encircling it and the whole body, as shown in Fig. 120).

FIG. 120.



Fracture of the Condyles.

This is when the lower part of the humerus is the seat of the injury, the condyles being the rounded eminences which fit into the socket-like hollows at the head of the ulna to form the elbow-joint.

Treatment.—Bend the elbow to a considerable angle, and keep it so by means of bent splints of gutta-percha, or millboard, moulded to the shape, the first being softened by heat, the last by moisture. Bandage, and keep all quiet until adhesion of the bone takes place, then put the arm in a sling, and let it remain thus supported for a month or six weeks.

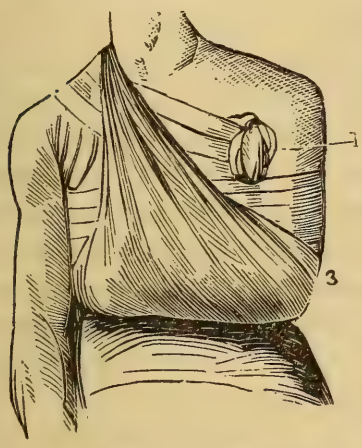
Fracture of the Shoulder-Blade.

This commonly happens near the neck, and is very likely to be confounded with dislocation of the shoulder, or fracture of the neck of the humerus, like which it should be treated, only that the arm, instead of being drawn down, must be supported.

Fracture of the Collar-Bone.

This is, perhaps, one of the commonest accidents of the kind that can happen, and one of the most easily detected. It is generally occasioned by a blow on the shoulder, which falls forward, pushing the ends of the broken bone one over the other. The main object in the treatment must therefore be, to keep the shoulder back until the bone has united, and become sufficiently firm to do this without artificial aid. This end is accomplished by various means, but the following plan is the most simple and successful for unprofessional adoption (see Fig. 121). A wedge-shaped pad of any soft material —a pair of old stockings, for instance— is made, and put in the middle of a small shawl, or a large handkerchief; it is then placed well under the arm, but on the iujured side (1); the ends of the envelope are brought, back and front, over the opposite shoulder, then crossed, and tied beneath the sound arm (2); another broad bandage of some kind is then passed several times round the body and injured arm (3), so as to bind the latter closely to the former in such a manner that the pad beneath the arm-pit acts as a fulcrum, and allows the outer end of the broken collar-bone to be pulled backward and outward during the process of binding, which, when completed, sets it fast in the right position. We have then only to envelope the whole of the fore-arm in a sling, and the apparatus is complete; it should be worn a month at least. If the arm exhibits a tendency to swell, it must be bandaged from the fingers upwards.

Fig. 121.



Sometimes the collar-bone is broken externally, near the point of attachment to the coracoid process. In this case there is scarcely any displacement of the fractured ends, and little need be done beyond keeping the patient quiet, and slinging the arm. In any fracture withinside of this point, the arm falls down, and is drawn inwards, and the above should be the plan of treatment.

Fractures of the Ribs.

Fractures of the ribs are not of unfrequent occurrence. They commonly result from a fall or blow, and may be complete or only partial, involving one or more of the bones.

Symptoms.—A sharp pain is felt at the injured spot, especially in breathing and coughing; irregularity to the touch; and distinct crepitation.

Treatment.—The chief risk involved is injury to the lungs, from the sharp ends of the bone and consequent inflammation. Leeches are sometimes applied to the seat of pain, and hot-bran bags. A band of stout cotton or flannel, from eight to ten inches wide, should be passed round the chest several times, beginning close under the armpits and going down to the end of the ribs. It should be drawn so tightly as to keep the ribs from rising and falling in the act of respiration. If inflammation follow, the pulse must be quieted by five to eight drops of tincture of viratrum viride, every one or two hours. The patient should be kept perfectly quiet, and on low diet, for a fortnight at least, assuming the position which is found most easy, which will probably be a half sitting one, supported by pillows.

Fracture of the Lower Jaw.

Fracture of the lower jaw sometimes occurs from a blow on the face, and in extracting a tooth. The nature of the mischief in this case is sufficiently evident; the grating is distinct, and the fracture can be felt. Professor Fergusson's treatment is the simplest and surest. Cut two narrow wedges of cork, an inch and a half long, a quarter thick at the base, and sloping away to an edge; place them between the teeth, one on each side; warm a piece of gutta-percha, or soften a piece of thick pasteboard in water, and mould it to the injured jaw, and keep in its place by means of either of the head-bandages figured at page 398. This must be tight enough to prevent any motion in the jaw. The cork wedges will keep an open space between the teeth for the passage of food, which must be in a liquid form. The mouth should be rinsed frequently with a lotion of tincture of myrrh and water in the proportion of two drachms of the former, to half a pint of the latter.

Fracture of the Leg between the Knee and the Ankle-Joints.

The leg is composed of two bones, an inner larger (the tibia), an outer smaller bone (the fibula). One or both may be broken. The tibia is more frequently broken about two thirds of the way down. It is detected without much difficulty by passing the hand down the line of the shin, although the displacement may not be great. It is

not easy to detect a fracture of the fibula, nor is it of great importance to do so.

Treatment.—Extension must be made as in the other fractures, and sufficiently so to bring the broken surfaces together. The old-fashioned straight splint would probably be the most readily available in domestic treatment. It is shaped as shown in Fig. 122, and should be sufficiently long to extend from a little above the knee to four inches beyond the sole of the foot. It may be quickly made out of half-inch board, planed smooth; the breadth should be about three inches; this must be padded throughout its whole length, except the notched end, which is to project beyond the foot, with tow, lint, or other soft material, taking care to have the pad thicker at the lower part, to suit the diminution in the size of the leg. This splint must be carefully placed against that side of the limb from which the foot exhibits a tendency to turn. We will suppose that a stout cotton bandage, about two and a half inches wide, and twelve inches long, has been provided. With this, beginning at the foot, and bringing it down from the instep between the notches at the bottom of the splint, envelope the limb evenly, fold over fold (as directed on page 397) up nearly to the knee, just below which a broad piece of tape should be passed, with the ends through the holes in the top of the splint, which ends are to be firmly tied at the moment when extension of the limb is made by an assistant; the bandage is then to be carried on over the head of the splint, and made secure. In Fig. 123 we see the limb, before this process is completed. When both bones are broken, it is generally necessary to apply the angular splint adapted to the ankle, of which Fig. 124 exhibits the outer and inner sides.

Fig. 122.
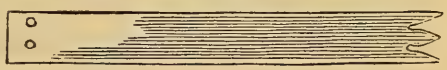


Fig. 123.

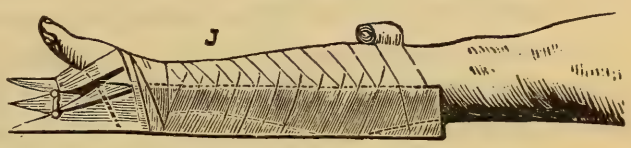
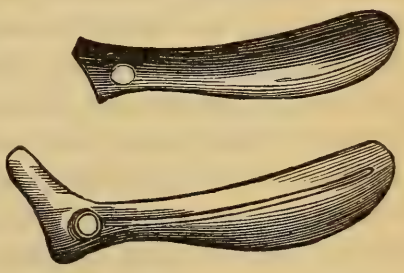


Fig. 124.



Fracture of the Knee-Pan.

Fracture of the knee-pan sometimes happens from the mere muscular exertion of kicking or throwing out the leg violently. It may

be at once detected by the depression in the bony plate, and separation of the broken fragments; these can not be kept in close apposition, and the injury is made good by a ligamentous band, which connects them. To facilitate this process, the leg should be kept in a straight position, above the level of the hip, so that the muscles of the thigh, which are attached to the upper edge of the knee-pan, may be relaxed. A long splint, bound beneath the leg from the thigh to the foot, will effect this object. Over the broken patella, a piece of cotton is bound, and the knee is bandaged tightly above and below this, so as to bring the broken pieces as closely together as possible, and to keep them so. The bandage will have to remain on probably for two months, as a fracture of this kind unites very slowly. The knee is generally weak after, and it is best to support it with an elastic knee-cap.

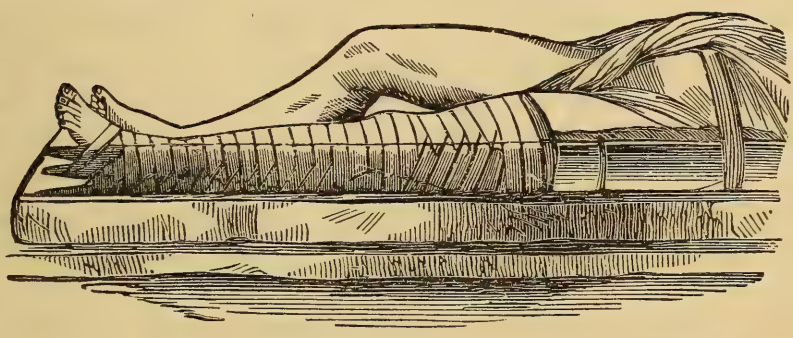
Fracture of the Thigh.

This is a very serious accident. The bone may be broken just above the knee, in the shaft, or near the neck. In the first of these cases the nature of the injury is sufficiently obvious, as the broken bone can be felt beneath the skin. This also is the case with the second, in which, as in the third, there is shortening of the limb, and generally turning out of the foot. This accident may be readily distinguished from dislocation of the hip, by the mobility of the hip-joint.

Treatment.—There is always much difficulty in keeping the ends of the bone in apposition here, in consequence of the power exerted by the muscles of the thigh, which are constantly pulling lengthways and causing the ends to overlap, or, as we say, "ride" upon each other; this is especially the case if the fracture is oblique. It is best to use the long straight splint first, in either of these cases, and to put it on with a light bandaging, gradually tightening it, to accustom the limb to the pressure. The splint must be made in the same way as that shown in Fig. 122, but much longer, reaching from the hip to beyond the toes. When inflammation has subsided, and the pressure can be borne, the case had better be treated in this way: let the patient lie on a hard mattress, with the leg extended and uncovered; then commence operations by bandaging the leg evenly from the toes to the knee; then place the splint, previously well padded, in its place, and make it fast with rollers to the foot, ankle, and leg, taking care that the former is in the position which it is to

occupy—that is, pointing straight upwards; next, take a silk handkerchief, in the middle of which some wool has been rolled up, to make it of considerable thickness, and pass it between the legs, bringing one end up behind, and one before; these ends pass through the holes at the top of the long splint, and tie them as tightly as possible, without displacing the fracture. Then after confining the splint to the waist, with a bandage, insert a short stick between the loop of the handkerchief, and give two or three turns; this will have the effect of shortening the handkerchief, and pulling down the splint, which will carry with it the part of the limb attached to it below, producing the necessary extension. Keep on at this until you find that the injured leg is as long as the sound one; and when this is the case, lay a short splint along the inside of the thigh, and bandage tightly and smoothly, from the knee up to the hip.

Fig. 125.



When it is completed, the patient will appear as in Fig. 125. The extension must be kept up for about six weeks, at the end of which time the fracture may be sufficiently united to bear the strain of the muscles upon it.

Fracture of the Pelvis.

Fracture of the pelvis sometimes occurs in falls from great heights, or in being run over, or having some crushing weight thrown on the body. When it occurs there is generally serious injury to the viscera of the abdomen and pelvis, indicated by the passage of blood from the bladder and bowels. The nature of the mischief in this case is not easily detected, and little can be done beyond enjoining perfect rest and a lowering diet, unless there are symptoms of collapse, in which case stimulants must be given.

Compound Fractures.

The term *compound* is applied to a fracture in which the skin is broken or torn, the wound of which communicates with the broken bone. This case is more serious and much more tedious than of common fractures, especially when the wound is large; but be it ever so small, it proves great violence and injury done to the soft parts, muscles, &c. Some weeks after the injury elapse before the bone begins to unite, in consequence of the large formation of matter that generally takes place, and the process of union of the bone does not begin until this action has ceased. During this stage, the patient becomes often seriously ill, and his vital powers are exhausted by the large quantity of matter poured out around and among the injured parts. In young and healthy persons, in whom the injury to the muscles, &c., is not very great, these stages are not very strongly marked, and the cure proceeds more rapidly.

Treatment.—The wound must be healed, if possible, the edges being brought together by adhesive plaster. The splints, whatever bone may be affected, should be applied as in simple fracture, care being taken, however, not to press on the wound if possible, and this may be avoided by dividing the pad that lies over the wound, into two parts, leaving a space for the wound, which should be untouched; the pad should be very thick. A better method than this, however, is to divide the splint and to connect the two parts by means of an arch of iron, so that the wound may be dressed without difficulty. This is called an interrupted splint. If the wound does not heal at once, the plaster may be removed, and a linseed-meal poultice substituted.

During the stage of formation of matter (suppuration), the patient will require tonic medicines, as bark, porter, &c., and small doses of opium at night, and nourishing diet, if the stomach will bear it; but this treatment should not be carried too far. Strong purgatives are injurious. The case will continue to progress very slowly for some weeks; abscesses may form; and, should matter collect under the skin so as to be felt on examination, or the skin become red and thin, the part should be punctured, and great relief will be afforded by its escape.

The splints should be removed as often as the matter renders the pads foul, or the wound appears to suffer from their presence; perhaps this may be required every other day, or even oftener. When the suppurative stage has passed, which may occupy from one month

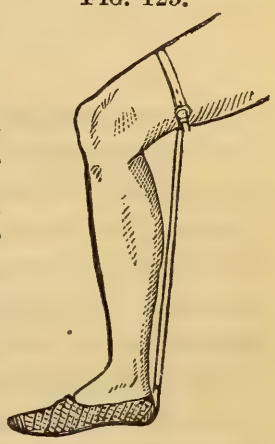
to two, the wound will look florid and healthy; and as soon as it begins to heal, the bone will begin to unite, but not until then. A month or five weeks will still be required before the union is complete, and two or three weeks yet longer before the patient is enabled to use the limb. The above periods refer to compound fracture of the thigh-bone. Compound fractures of other bones pass through these stages more readily.

INJURIES TO ARCHILLIS TENDO.

This is the great tendon which passes from the muscles of the calf down to the heel, upon which it acts with the whole force of those muscles. It sometimes happens that by a sudden jerk, or violent exertion, the tendon gets torn across, or ruptured, and great pain or lameness is the consequence.

Treatment.—On the first occurrence of the accident, if swelling and inflammation ensues, apply three or four leeches, and encourage the bleeding for a time with warm fomentations, or a linseed poultice. Afterwards resort to cooling lotions, such as the following: Liquor of acetate of lead and tincture of opium, of each two drachms; common vinegar, one ounce; distilled water, fifteen ounces; keep lint or linen rag wet with this lotion constantly applied. When the inflammation has subsided, if there be still swelling and stiffness, rub in, night and morning, this liniment: strong liquor of ammonia and tincture of opium, of each, one drachm; spirits of turpentine and soap liniment, of each one ounce. If it is merely a *strain* of the tendon, a little rest and the above remedial measures will soon afford a cure; but if a positive *rupture*, there may be much difficulty in getting the parts to unite. To accomplish this end, it is best to use a slipper with a strap attached to the heel, which, passing up and encircling the thigh, may be drawn tight and kept so, as in Fig. 125. During the process of uniting, if the patient walk at all, it should be with a crutch; and after the cure has been effected, a high-heeled laced boot should be worn to protect the part.

Fig. 125.



FOREIGN SUBSTANCES IN THE EYE.

Pieces of metal and other bodies often fly into the eye, causing great pain. Draw down the lower lid with the fore finger of the left

hand as in Fig. 126, and remove by a piece of moistened paper. If the substance be under the upper lid, place a bodkin across the lid, and draw back the lid so that it is completely inverted, as shown in Fig. 127. Inflammation is very apt to occur after these accidents.

Fig. 126.

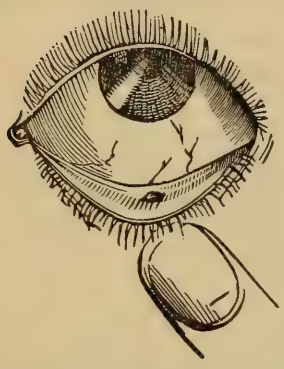
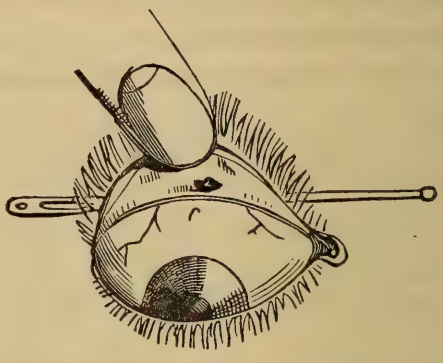


Fig. 127.



The eye should be well bathed with warm water several times a day, and afterwards an eye-water may be used, made of a drachm of alum to a pint of water, two or three times a day.

SPRAINS OR STRAINS.

Sprains or strains are injuries done to ligaments, tendons, and other structures surrounding the joints. They are produced by jumping, falling, or other causes which forcibly stretch or lacerate them. The joints most liable to sprains are the wrist and ankle joints. The wrist joint becomes sprained in consequence of the arm being naturally thrown out by persons in falling to prevent their being seriously injured, by which means the whole weight of the body is thrown on the wrists, which not only sprain those joints, but sometimes fracture them. The ankle-joint is frequently sprained by jumping from a considerable height, or the foot turning under the weight of the body. Sprains are attended with great pain at the time of the accident, and also with considerable swelling and discoloration of the injured part; the swelling and discoloration arising from the effusion of blood into the surrounding structures. The joints at first can be easily moved, but as the swelling and inflammation increase, all motions become painful, and the patient is unable to use the injured limb under any circumstance whatever.

Treatment.—The injured limb must be kept in a perfect state of quietude, and in such a position as to relax the muscles in connection with the affected tendons, as well as to favor the return of the blood

to the heart. He must be kept in a recumbent position; evaporating lotions should be kept constantly applied to the injured parts, by means of linen rags wetted in the following lotion, and which should be renewed as often as they become warm:—

Take of goulard water, eight ounces; gin, four ounces; camphor mixture and mindererus spirit, of each two ounces; make a lotion, which should be kept in a cool situation until required for use. Tincture of arnica is an excellent application, or a poultice of arnica flowers.

This practice should be continued for the first twenty-four or forty-eight hours; after which period, should the swelling or pain increase, leeches may be freely applied to the parts affected, and the bleeding freely encouraged by means of a sponge and warm water constantly applied to the leech-bites. Hot fomentations should afterwards be applied by means of flannel wrung out of a decoction of camomile-flowers and poppy-heads, and the bowels kept in a free state by the following mixture:—Take of epsom or rochelle salts one ounce, antimonial wine half an ounce, mindererus spirit one ounce, syrup half an ounce, camphor mixture three ounces—mix. Two tablespoonfuls to be taken every three or four hours until the bowels are freely acted upon. By this treatment the disease will rapidly subside, and the parts will return to their usual healthy condition in persons of sound health. The patient should not be allowed to make use of his limb too soon, as the irritation and inflammation of the joint will be kept up, and thus he may suffer from it for months, or even years. When all signs of the disease have disappeared, the motions of the part may be promoted by gentle exercise, and the following liniment may be rubbed night and morning:—Take of soap liniment one ounce, olive oil half an ounce, tincture of French flies half an ounce, mix; the parts may be afterwards supported by a roller, or it may be found necessary to envelope them in straps of soap plaster, in addition to applying the bandage.

BITES AND STINGS OF SNAKES, INSECTS, &c.

Bites of serpents and venomous reptiles are sometimes very troublesome. As soon as the injury is received tie a piece of string tightly round the part as near as possible to the wound, and between it and the heart, to prevent the return of the blood to this organ. Wash well with warm water, and place one end of a large quill, or small tube, over the wound, and keep sucking at the other, which will

produce a vacuum, and act as a cupping-glass. Then thoroughly suck the wound, or soak it in hot water, to encourage bleeding from it; apply caustic, or cut out the bitten part, and give hot brandy and water, or some sal-volatile in water, as a stimulant to the nervous system. The most efficacious remedy, administered internally in India, is a draught composed of thirty drops of solution of arsenic, ten drops of tincture of opium, a table-spoonful of lemon or lime juice given in a wineglassful of water, or peppermint-water, and clysters administered to purge, until the symptoms abate. If the symptoms are slight, the swollen parts may be well rubbed with a liniment of oil, turpentine, and liquid ammonia; also apply leeches and hot fomentations, with cordials to prevent fainting.

For the bite of the rattle-snake, give large quantities of alcoholic drinks—gin or whiskey; keep the body thoroughly saturated till the symptoms decline.

BITES FROM INSECTS.

Examine the parts with a magnifying glass, and extract the sting with a pair of pincers or forceps. Apply to the wound turpentine, hot vinegar, hartshorn, spirit, or eau de Cologne. Soap or camphor liniment may be used to remove any swelling that remains. For the bites of bugs, fleas, gnats, musquitoes, &c., the best remedy is eau de Cologne, or some spirits, to convert the itching into a slight smarting; and the application of any strong perfume, such as lavender, a bitter infusion of quassia, wormwood, or gentian, will act as a preventive against their nightly visits. There are two great classes of insects which give rise to poisoned wounds: those which sting, as bees, wasps, hornets, ichneumons; those which suck, as the gnat, horse-fly, flea, bug, &c., and have a set of lancets at the mouth to pierce the skin.

SPINAL WEAKNESS AND DEFORMITY.

The weakness of the spine is generally connected with debility of constitution; the curvature of the spine, or the "growing out" at the system, and sometimes, from a habit of lolling about.

Treatment.—Administer such medicines as will give tone to the muscular system, and invigorate the health, such as steel, quinine, or cod-liver oil; aperients, if the bowels are confined. In the early stages other measures must consist of the shower-bath, with friction by means of a rough towel, sleeping on a mattress, exercise in the open air (short of fatigue), lying on the back after exercise, gym-

nastic exercise that shall bring into full play the weak side, and sea-bathing. If these means, steadily persevered in for some months, fail to do good, mechanical contrivances must be had recourse to under medical advice.

WOUNDS.

Wounds are either incised, lacerated, contused, or punctured. They are called incised wounds when they are made with a sharp cutting instrument, as when a shoemaker cuts himself with his knife, or a carpenter with his chisel. They are called lacerated when the flesh is torn, either by machinery, hooks, or other blunt instruments. Wounds are said to be contused when there is an irregular breach of surface, accompanied by injury and a bruised condition of the surrounding parts; they are generally produced by falls or blows of blunt instruments. Punctured wounds are produced by the forcible entry of sharp instruments, such as bayonets, swords, scissors, hooks, or the pointed ends of broken bones.

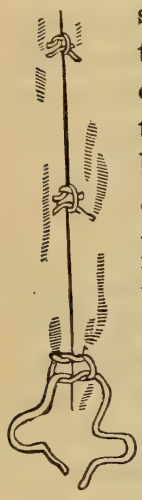
Incised Wounds.

If has been observed before, that incised wounds consist of a mechanical division of the parts by a cutting instrument; all, therefore, that is necessary to be done, is to bring the edges of the wound nicely together, and maintain them in that position until union takes place. This is effected, if the wound be trifling, by means of straps of sticking-plaster, which should be so applied as to preserve the edges of the wound in apposition. Collodion answers admirably. If the wound be of considerable extent, and bleeds freely, the first thing to be done will be to arrest the hæmorrhage; this will be effected, if the bleeding vessels be small, by making pressure with a sponge for some considerable time. All extraneous matter should be cleared off, and the lips brought together; a piece of lint should be dipped in the blood and placed over its edges. This is found to be an excellent application, as the blood in drying, in consequence of its adhesive qualities, seems to maintain the union of the edges of the wound. In the course of four or five days, the parts will be found to be united, unless some accidental circumstances, such as too great a degree of inflammation or an untimely meddling with the dressings, should occur. The strappings or dressings should on no account be disturbed before the fourth, fifth, or sixth day, unless the parts should be in great pain or much swollen. If the

incision takes place about the cheeks or lips, or other parts which are unsupported, and where sticking-plaster could not be applied, it will be necessary to put in two or three sutures, according to the extent of the wound. Should the parts swell, a cooling lotion may be applied, such as goulard-water, and the bowels should be kept in a free state. Frequently the edges of the wound must be maintained in apposition by means of sutures.

Sutures are for the purpose of holding together the edges of a wound in soft fleshy parts that are loose and movable, where sticking-plaster would not, of itself, hold sufficiently secure. They consist of stitches, from half to three-quarters of an inch apart, between which strips of plaster are placed, and are not drawn out for several days if they do not irritate the part much; but if they do, then they must only be continued one or two days. The needle should be threaded with silk or hemp thread well waxed and flattened. It should always be borne in mind that the edges of wounds are never to be drawn together with any degree of strain or force to the parts, as then the process of healing will not take place. In what is technically called the interrupted suture, a stitch is taken straight through the edges of the wound, as in ordinary sewing, and then knotted. In the twisted suture fine steel needles, with flattened points, are passed through the edges of the wound; then silk is twisted in the figure of eight around them, as a boy twists his kite twine on a stick. It is better not to cut the silk, but continue each end down to the next needle, and so on; secure the ends with a small knob of wax. Fig. 128 shows the mode of making and tying sutures.

FIG. 128.



Lacerated Wounds.

Lacerated wounds, in consequence of the great injury done to the parts, and from the fact of their not bleeding much, are very subject to active inflammation. If the wound be considerable and the parts much injured, the patient should enjoy perfect rest; the parts should be covered with cooling lotions (*see Prescription recommended in Sprains*), all dirt and extraneous substances being previously washed off; the bowels should be opened by the common black draught. If inflammation run high, leeches should be applied, and the bleeding encouraged by the application of hot water; the cold lotion should

now give way to fomentations and poultices; the patient should live low. When the inflammation has subsided, the wound may be dressed with basilicon or Turner's cerate. Erysipelas frequently follows lacerated wounds of the scalp; in this case the parts should be freely fomented with hot water, and the patient should take a fever mixture. Tetanus, lock-jaw, and spasm, often arise from lacerated wounds; in such cases opium should be administered in doses suited to the age and circumstances of the patient. One grain might be given every three or four hours until relieved.

Contused Wounds.

Contused wounds will require the same treatment as that already described. Cold applications in the first instance, and if inflammation sets in, leeches and hot fomentations. They generally terminate in suppuration and sloughing, or mortification of the parts, according to the extent of the injury. In order to expedite these processes, poultices of bread and water, or linseed-meal, should be applied three or four times a day, and when the abscess opens or the slough is thrown off, they are to be treated as common ulcers with basilicon or some other stimulating ointment, for the purpose of promoting healthy granulations, and thus healing them. During the active stage of inflammation, the patient should live sparingly; but tonics, such as quinine, and a generous diet should be allowed under the stage of suppuration or sloughing.

Punctured Wounds.

Punctured wounds are extremely dangerous—much more so than the others already described. A punctured wound from a nail, hook, or any other pointed instrument, gives rise to inflammation of the absorbents (a set of vessels running from the wound into the neighboring glands), and is manifested by red lines taking the course of these vessels. Abscesses of the glands, and of other parts of the body, in their course, frequently ensue; and if the matter be deep seated, such a degree of irritative fever is produced as to cause death.

Lock-jaw (tetanus) and frightful convulsions are often the result of tendons or sinews receiving punctured wounds. In the first instance the puncture should be laid open with the lancet, cold lotions should then be applied, and if inflammation sets in, the parts should be covered with leeches according to the age and strength of the

patient; the diet should be sparing, fomentations and poultices should be constantly applied, and the limb should be supported on an inclined plane, in order to favor the gravitation of the blood towards the body. All stimulating drink should be cut off. The bowels should be kept freely open, and the patient should observe perfect rest. As soon as matter has formed, it should be let out by free incisions with the lancet, after which the parts should be poulticed three or four times a day. In order to allay irritation and pain, and to procure sleep, great advantage will be derived from the administration of ten grains of Dover's powder, at bedtime.

GUNSHOT WOUNDS.

When a ball enters the body, the wound appears somewhat smaller than the ball itself; its edges are ragged and inverted, and the part around has a bluish or black color from the bruise. When it passes through the part, the aperture by which it makes its exit presents quite a different appearance. It seems somewhat larger than the ball, the edges are everted, and there is little discoloration about the wound.

Treatment.—Excessive bleeding is not so common after gunshot wounds as after other kinds; but it sometimes occurs, and may be fatal if not attended to. Where it can be done, the finger should be inserted into the wound, and pressed upon the vessel, otherwise a handkerchief should be tied very tightly round the limb above the wound. It is well to examine the wound as early as possible, in order to ascertain the amount of injury; at least, so far as this can be done without aggravating the case. The ball or other foreign substance ought to be removed, if that can be easily effected; but otherwise, it ought, in the mean time, to be let alone. As the walls of the wound slough and suppurate, the opening will become larger, and it may then fall out or be easily removed. Sometimes it may remain embedded in the tissues, without producing much or any inconvenience. If, after the sloughing and suppuration, the ball remains fixed, and if much irritation continues to be excited, and abscesses form about its track, then it may be necessary to find out its seat, and use every means to remove it. The simplest dressings should only at first be applied; sponge and bathe well with water, to stop bleeding and cleanse the wound; then apply a piece of lint crossed by strips of plaster. The agitation of the patient should be soothed by a few spoonfuls of wine or spirits; but, if he suffer much

in his mind, an opiate may be administered. Afterwards wet a few folds of linen with a simple lotion, apply it to the part, and lightly bandage. Keep the patient quiet, and let him remain in bed. A few days after, moisten the clothes with warm water, and remove them. Inflammation will now have set in; if the patient can bear it without producing a chilly sensation, dress it with cold water. On suppuration being well established, apply mild stimulating lotions, or poultices, and bandages. When matter forms beneath, it must be let out by the knife if poultices will not do it; its accumulation may often be prevented by compression. Low diet, purging medicine, and quiet, are great assistants to recovery. If the party be stout or in full habit, and the wound severe, then it must be bled. Leeches will allay the inflammation, and if there be much pain, opiates should be given at night. Pieces of clothing or wadding should be extracted from the wound. If a ball lodges in a bone, it may require a chisel to remove it. If a bone be severely splintered, then amputation becomes necessary.

THORNS, &c., IN THE FLESH.

It is very common for the hands, feet, or legs to be pierced by the forcible intrusion of small pointed substances, as thorns of roses, thistles, &c. If such be immediately and entirely extracted, the accident is seldom attended with bad consequences; but if any such pointed substance penetrates the body, or even a part of it be left in the flesh, it causes inflammation, and sometimes a considerable abscess.

Treatment.—If the thorn, &c., can be taken hold of easily, remove it with a pair of forceps; if not within reach, apply a bread-and-water poultice, and continue to do so until the intruder is removed. If suppuration has not been prevented by the immediate extraction of the offending substance, the abscess caused thereby should be opened immediately it has formed. Sometimes the thorn, after painfully penetrating through the skin, enters directly into the fat, upon which the pain ceases, and the patient begins to congratulate himself that the cause is removed. Nevertheless, some days afterwards—or in other instances, some weeks—fresh pains are excited, followed by inflammation and an abscess. This condition is to be treated with bread-and-milk poultices and seasonably opened. Instances have been known of persons being compelled to lose their hands, limbs, &c., through neglecting precautionary measures in these accidents.

CRUSHES OR JAMS.

If the part be so severely injured as to threaten sloughing, or a separation of the flesh from the bone, tepid water or poppy fomentation should be applied. Tincture of benzoin, or Friar's balsam, on lint, is highly useful, sealing up the wound, as it were, from the contact of air, and disposing it to heal. If the fingers or toes have been severely crushed so that it may seem impossible to save them, they should not be too hastily amputated, as they often recover under favorable circumstances, long continued rest being very essential. In other and more simple cases, apply a bread-and-water poultice, or a piece of folded linen rag, or spongio piline dipped in cold water. If there be pain, heat, redness, swelling, or throbbing, then there is inflammation or the formation of matter; keep applying cold-water fomentations for the first thirty-six hours, all bandages being lightly tied; after that time put the part in a hot-water bath, or foment with hot water and apply poultices. Openings are to be made, if necessary, to prevent the lodgment of putrid blood and matter.

CUPPING.

Cupping is the application of cupping-glasses, from which the air has been previously extracted, to the skin, with the view of attracting blood to the part, and, if necessary, abstracting it. Dry or wet cups (that is, without cutting, or after using the scarificator) are very useful means of drawing blood. If the part to which the application is to be made has hair upon it, it should be freshly shaven, and then moistened in warm water. A portable spirit-lamp is to be made by a bit of sponge, or rag, wound on a piece of stick, and dipped in alcohol. The cup is to be brought near the patient, then quickly placed over the flaming sponge, and rapidly applied. After suffering the cup to remain a few minutes, it is withdrawn by depressing one edge, and the part scarified. The cup is then re-applied.

If no scarificator can be had, a few cuts with a sharp lancet will answer the purpose, and the place of cups may be supplied with a small tumbler. Good brandy can be substituted for alcohol

After the operation, the wounds should be closed with lint and plaster, and pressure should be kept on the part for some days, in order to prevent secondary hæmorrhage. Cupping is preferable to any other method of blood-letting in many kinds of inflammatory disease.

VACCINATION.

In the minds of many persons there is a great prejudice against this operation, and they will often risk the legal punishment due to them for evading the law, rather than submit their children to it; but if they were better informed they would not so act. The statistics of different visitations of smallpox show that the mortality of those attacked who have not been vaccinated is one in four, whilst those who have, it is not one in four hundred and fifty,—a strong argument this for vaccination. The operation is usually performed by making an oblique puncture through the epidermis and introducing a portion of the virus on the point of the lancet or needle. If the operation has been successful, a small inflamed spot is discernible about the third or fourth day. This increases in size, becomes hard and elevated, and about the sixth day a small quantity of fluid may be distinguished in the centre. About the eighth day, when the pustule is fully formed, the constitutional effects begin to appear—headache, shivering, loss of appetite, &c., which gradually subside in one or two days. Afterwards the fluid dries up, and a dark brown scab forms, which remains for about a fortnight, and on disappearing leaves a depression. It is a disputed point whether the effects of vaccination are permanent or whether they disappear after a certain time. The majority seem to be in favor of the latter opinion, at least to the extent of recommending that persons who have been vaccinated in infancy should be re-vaccinated on attaining maturity. From the operation being imperfectly performed, or from other causes not well understood, vaccination does not in all cases afford absolute immunity from the disease; but in those cases in which it does occur it is almost always in a very mitigated form.

HOW TO APPLY LEECHES.

The part and the leeches also should be carefully wiped, and if to be confined to a particular spot, put them into a wineglass or pill-box, and hold over the part until they bite. If they are put on by hand, hold their tails with a wet cloth; should they not bite, put them into cold water for a short period. If the part be moistened with sugar and water, cream, sweet beer, or prick slightly, so as to draw blood, will often induce them to take. When they fall off full, put them on a plate, and sprinkle salt over them, or take them by the tail and draw them through the thumb and finger, that the blood may be thoroughly pressed out, which will squirt from them. Put

them into plenty of cold water, that they may wash themselves well; then place them in a jar with a little moss, and cover it with a piece of muslin, and keep them in a cool place. After bleeding with leeches, sponge off the clotted blood, and put on a bread-and-water poultice, which renew every half hour, to encourage the flow of blood. Should the leech-bites not heal but continue bleeding, so that the person becomes faint, and the lips and face pale, make pressure with the finger over the spot, or apply caustic. If these means fail, take a strong needle and thrust it through the skin on each side of the wound; that is, right through the bite; then wind a piece of thread —silk, if at hand—round and round the wound, under the ends of the needle. This will raise it up like a small spot; in twenty-four hours cut the silk, and carefully draw out the needle. Try a small piece of lint, dipped in the tincture of iron, pressed on the bite for a few minutes, or a leaf of the Indian hemp. Never put them on the eyelids. If leeches stick too long, never pull them off, but touch them with salt.

HOW TO DRAW TEETH.

The single teeth may be easily extracted by grasping them firmly, and as low down on the gum as possible, with a small pair of pliers or forceps. Do not press heavily on the sides of the tooth, or it may be crushed or broken off; give a rotatory motion at the same time. The double teeth are generally drawn with an instrument dentists call a key instrument; this has a claw to seize the tooth and press it against a bolster, it then acts as a lever; but with a strong and steady hand, most of the teeth may be drawn out with the forceps.

After a tooth has been drawn, sometimes a severe bleeding takes place from an artery; to arrest this, try a strong solution of nitrate of silver or powder of Indian hemp; if this be not successful, clear the hole of the clotted blood, and press into it a piece of lint, made thin at the end, so that it may reach the very bottom, fill it with lint the height of the gum, then put upon it a bit of cork, or a few folds of linen, so that when the mouth is closed the teeth opposite the hole may rest upon it, then bandage over the chin to the top of the head, to keep it firm

ISSUES.

Sometimes it is necessary to create these ulcers to draw matter away from certain parts. The skin and fat are nipped up between

the finger and thumb, and then divided with a lancet so as to admit a pea, instead of cutting; the sore is sometimes made with a blister or caustic, and the pea is smeared in ointment of yellow resin. The pea is held in its place with common diachylon plaster. If inflammation appear, aperient medicines must be given, and the issue dressed with ointment of wax.

HOW TO AVOID ACCIDENTS.

Although we can not altogether prevent accidents, yet we may with a little ordinary prudence, lessen the chance of their occurrence, and an observance of the following simple rules will assist us to do so:—

1. Be very cautious when on the water, or in its vicinity; more sudden deaths occur by drowning, and more diseases originate from colds caught by immersion and exposure in wet habiliments, than perhaps from all other causes put together; therefore be careful, if in a boat, to remain still, and so as not to destroy the equilibrium of yourself or the boat; be cautious of hoisting a sail in squally weather, and give a wide berth to any advancing vessel. Step not from one unsteady boat to another, or on to a floating pier, nor walk across a narrow plank without securing good hold on some support. When on land, step not too near the brink of a lake or river; it may be loose and crumbly, or a sudden gust of wind may cause you to lose your balance. When bathing, beware of eddies in the current, especially if you can not swim; do not venture beyond your depth in the latter case without such support as corks or bladders, and in no case attempt to bathe when in a heated state, or immediately after a full meal.

2. Do not stand beneath a tree in a thunder-storm, or by an iron palisade or spout, whether of iron, zinc, or lead; go not very near lightning conductors, tall chimneys, or lofty erections of any kind. If in the house, keep away from the fireplace, looking-glasses, and windows, whether open or shut, as well as from doorways through which the electric fluid might escape, if it entered by the chimney. A bed in the middle of the room is the safest place, as blankets and sheets are non-conductors.

3. Loaded firearms should be put in safe places, out of the reach of children; never play with them, and pretend to fire them at any one. Do not keep guns or pistols loaded at all, unless you have some particular occasion for it. When carrying a gun let the muzzle

be always pointed toward the ground, and, if you have occasion to pass it through a hedge or fence, look that there is no one in line with the barrel in the direction in which it points. Do not overload a piece, nor fire it with a foul barrel. Be very careful of gunpowder, and by no means smoke a pipe or cigar when you have much about or near you.

4. Do not sleep near lime-kilns, nor lay by burning charcoal. If drowsiness should come on while in such situations, leave them, and go out into the fresh air.

5. In felling trees, keep out of the line in which they are likely to fall.

6. In severe weather, if obliged to be exposed to the cold, do not lie down to sleep, although you may feel an inclination to do so. Keep moving about while you have power, and apply friction to the numbed parts of the body; take up some snow in the hands, and rub them well together. When in a partially frozen condition, you have an opportunity of approaching a fire, do not so too hastily, but get into a higher temperature by degrees.

7. Beware of damp beds, and of clothes damp with perspiration, especially of sitting in them in a cold atmosphere, or in a draught of air from an open window. Clothes from the wash should always be well aired, and such as have been long out of wear, especially if kept in a room without a fire. Beware also of new buildings, of which the walls are not sufficiently dry; if they "sweat," as it is technically called, they are unfit for habitation.

8. Go not into vaults or cellars that have been long closed, or wells or other confined places, until you have introduced a lighted candle therein. If the flame burns brightly, you may be sure there is no excess of carbonic acid gas; if it goes out, or burns dimly, the air is unfit to breathe. Throw in some lime-water to neutralize the carbonic acid, and introduce fresh air as soon as possible.

9. Let all horses, draught or saddle, be secured before leaving them, and beware of vicious horses, some of which will bite as well as kick. Be cautious of an animal whose disposition you do not know. Bulls and boars are uncertain, and dangerous, and strange dogs are not to be trusted; the bite, and even the scratch of a cat has resulted fatally.

10. In nurseries and other places where there are children, always keep iron guards before the fires; and even then, do not leave the children by themselves, on account of their well-known propensity

to play with fire. For the same reason leave them not alone with lamps or lighted candles, and put lucifer matches out of their reach, and also kettles, or any vessels containing hot water.

11. Never allow open candles to be carried about the house by servants or children; and if light is burned in the night, place it so that the flame could not, were it to fall aside, come in contact with any combustible materials. Turn off singly the taps of all gas-burners. If you smell an escape of gas, do not approach the place where it is likely to be taking place with a lighted candle until plenty of air has been admitted.

12. Put a label with the word *Poison* on all bottles and packets containing corrosive or other preparations of a hurtful character; and even when so labeled, do not let them be about in the way of children or ignorant persons. If there is occasion to place rat or beetle poison in the house, let it be in out-of-the-way places, and be careful to take it up and destroy it in a short time, should it not be taken by the animals it is designed to destroy.

Many other cautions might be given. We might speak of leaving trap and other doors open, and wells uncovered; of leaning too far out of windows; of chopping and sawing wood, and using edged tools of any kind in a careless manner; but it is scarcely necessary to occupy our space by mentioning these, although they all contribute to swell the chapter of accidents which forms part of the history of every life.

WENS.

A wen is a tumor mostly situated on the head or neck, and containing a suetty or curd-like substance. They are usually harmless; and, except from their situation and unsightliness, do not require interfering with.

Treatment.—The most certain mode of proceeding is their being extirpated by a surgeon; the operation is neither difficult nor dangerous.

1. Take of the compound tincture of iodine, from five to ten drops three times a day in a little water. Apply also the following ointment night and morning: iodide of potassium, one drachm, to be rubbed very fine and dissolved with a few drops of water; lard, one ounce; camphor (finely powdered), half a drachm. Mix.

2. Paint the wen over with the compound tincture of iodine for a time, and afterwards bathe it with the following lotion: muriate of

ammonia, half an ounce; spirits of wine, one ounce; elder-flower water, three ounces. Mix.

3. Dissolve forty-eight grains of iodine in one ounce of pure spirits of wine. Give to an adult ten drops of this tincture in half a wine-glassful of capilliare and water every morning fasting, give a second dose at ten o'clock, and a third at bedtime. At the end of the first week the dose may be increased to fifteen drops three times a day, and a week afterwards to twenty drops.

WHITLOWS.

Whitlow is an inflammation of the extremity of the fingers, which is usually caused by a small quantity of humor being stagnant in that part,—whether this has happened in consequence of a bruise, a sting, or a bite.

Treatment.—As soon as the disorder is manifest plunge the finger affected into water as warm as can be borne, and keep it there for some time, adding hot water every now and then to keep it the desired heat; also direct the steam of the hot water into it; doing it constantly for the first day, will often dry the whitlow away. Or, apply to the whitlow compression with the hand in a degree which can be easily borne, with the view of preventing the formation of matter, then bind it round with a narrow fillet. Repeat this three or four times in the course of two days, when in all probability the pain and swelling will disappear, leaving a single speck of matter at the point of the finger, immediately under the skin. If vent be given to this by the slightest touch of the needle, the wound will heal up immediately. When an abscess can not be prevented, a poultice of bread and milk should be applied to favor the formation of matter, and as soon as the abscess is ripe, or what is termed "come to a head," it must be opened with a lancet; afterwards dress the wound with tincture of calendula.

RUPTURE (*Hernia*).

Children and old people are most liable to this, though sometimes they occur to persons of middle age. If difficult, or impossible to be returned, it is called strangulated rupture, and requires the best assistance.

Causes.—In children, excessive crying, coughing, vomiting, or the like. In adults, it is commonly the effects of blows, or violent exertions of the strength, as leaping, carrying great weights, &c. In

both, a relaxed habit, indolence, and an oily or moist diet, dispose the body to this affliction, by weakening the skin.

Symptoms.—The outer part of the belly cracks, or tears, and a part of the gut protrudes through the aperture.

Treatment.—The patient must be laid on the back, the head low, and the buttocks raised; while in this position the gut must be returned by a gentle pressure, if it does not fall back of itself. After it is returned, a piece of sticking-plaster may be applied over the part, and a truss, or bandage, worn for a length of time. If it has been forced down with great violence, or happens from any cause to become inflamed, it is often very difficult to return it, and sometimes impracticable, without an operation, a description of which is foreign to our purpose, but in those cases, until some assistance can be obtained, act as follows: foment with warm fomentations; give clysters; then when the bowels have emptied, the operator must press and guide the gut back through the aperture, if possible to do so. An adult, after being ruptured, should never neglect wearing the proper truss.

FISTULA.

This is an abscess degenerating into an ulcer near the anus, which ulcer has often a connection with the lower gut.

Causes.—Persons who follow occupations constantly sitting, are most liable to them; they are also produced by blows over the part, sometimes intemperance.

Symptoms.—A painful gathering takes place near the fundament, forming an abscess, which sometimes requires cutting, and then forms what is called a sinous ulcer.

Treatment.—Sometimes a cure will be effected by attending to the general health, and the injection of some astringent lotion, as solution of sulphate of zinc (forty grains to one pint of water). Failing this, it will be necessary to make a complete division with the knife of the whole of the parts between the fistula and the bowel, and the edges of the wound kept apart by lint, in order to allow the cavity to fill up by granulation.

POISONS AND THEIR ANTIDOTES.

So many substances of a poisonous nature being used in manufactures amongst farmers, and also in private houses, it will be useful to have a guide to refer to in case of accident; for, in almost every case of poisoning, the remedy must be given immediately, or

we can not expect to succeed. We give here the names in common use, and under one head we include various articles made from the same substance. For instance, to the word *Mercury*, you find calomel, corrosive sublimate, white percipitate, vermillion, which are all mercury, but in different forms.

As a general rule, in all cases of poisoning, especially if seen immediately after the poison has been swallowed, the person should be made to vomit. To accomplish this give a teaspoonful of mustard in a tumbler of warm water; or two or three teaspoonfuls of alum in the same way.

ARSENIC—(*Scheele's green, ague-drops, rat-poison, &c.*)

Symptoms.—Pain and burning heat of stomach, dryness of throat, cramps, purging, vomiting.

Treatment.—Give large quantities of milk, and raw eggs, lime water, or flour and water; then castor-oil.

ANTIMONY—(*Butter of antimony, tartar emetic, &c.*)

Symptoms.—Severe vomiting, cramps, faintness, purging.

Treatment.—Plenty of strong tea. If you have no common tea at hand, use an infusion of oak, elm, currant, or blackberry bark or leaves. Or for butter of antimony, use the treatment given below for *Acids*. Support the strength.

ACIDS—(*Oxalic, sulphuric* (oil of vitriol), *nitric* (aquafortis), *muriatic* (spirit of salt), *but not prussic acid.*)

Symptoms.—Horrible burning, sour pain from the mouth downwards. The skin of the lips, mouth, and throat, is dissolved. Purging of blood, great thirst.

Treatment.—Put an ounce of calcined magnesia into a pint of water, and give a wineglassful every two or three minutes. If the magnesia is not ready, use whiting, chalk, soda, or lime-water, or knock a piece of plaster off the wall, pound it small, and give it in milk or water. While one person attends to this, let another cut some common soap into small bits, and give a teaspoonful with water, or a tablespoonful of soft soap. Give plenty of warm water to drink.

BAD FISH—(*Mussels, &c.*)

Symptoms.—Pain in stomach, headache, flushed face, feeling of choking, perhaps scarlet eruption of the skin.

Treatment.—Empty the stomach by an emetic (as in poisoning by laudanum), then give a full dose of castor-oil with some warm spice. A mustard-plaster to the pit of stomach if needful.

CHLORIDE OF TIN (*called Muriate by dyers*).

Symptoms.—Vomiting, pain in the stomach, purging, convulsive twitching.

Treatment.—Give large quantities of milk, with magnesia, chalk, or whiting in it; also raw eggs beaten up with water or milk.

CHLORIDE OF ZINC (*Burnett's disinfecting fluid, white vitriol*).

Symptoms.—Same as chloride of tin.

Treatment.—Plenty of milk, with the whites of eggs in it.

COPPER (*blue copperas, blue verditer, mineral green, verdigris, food or confectionery cooked in foul copper vessels, pickles made green by copper*).

Symptoms.—Coppery taste in the mouth, tongue dry and parched, very painful colic, bloody motions.

Treatment.—Large quantities of milk and the whites of eggs, afterwards strong tea. Don't give vinegar.

CORROSIVE SUBLIMATE (*see Mercury*).

COCULUS INDICUS (*see Poisonous Plants*).

GREEN VITRIOL (*sulphate of iron*).

Symptoms.—Pain, sickness, burning heat of the stomach.

Treatment.—Give an emetic, afterwards magnesia or carbonate of soda and water.

IODINE (*iodide of potassium, or soda, or iron*).

Symptoms.—Burning pain in the throat, heartburn, vomiting, very likely salivation.

Treatment.—Large quantities of cold starch and water, or flour and water.

LEAD (*acetate or sugar of lead, red lead, white lead*).

Symptoms.—If taken in large quantities, metallic taste in the mouth, pain in the stomach, painful vomiting, often bloody, and hiccough.

Treatment.—Put two ounces of Epsom salts into a pint of water, and give a wineglassful every ten minutes, till it operates freely. Taken in small quantities, either by drinking water out of a new lead cistern, or one newly repaired with white lead, or by working amongst it; lead produces colic, loss of power in the limbs, especially wrist-drop, and a blue line along the gums.

LAUDANUM (*opium, paregoric, soothing syrup, syrup of poppies*).

Symptoms.—Giddiness, stupor, gradually increasing into deep sleep, the pupil of the eye very small, lips blue, skin cold, heavy, slow breathing.

Treatment.—Empty the stomach as quickly as possible by vomiting. For an adult give fifteen grains of sulphate of zinc in a little water; to a young person half the quantity, to an infant a teaspoonful of the syrup of ipecac. If you can not get drugs, use mustard and warm water, salt and water, and tickle the top of the throat. After vomiting give plenty of very strong coffee, put a mustard plaster round the calf of each leg, and if cold and sinking give a good quantity of spirit and water. Keep the patient roused till the effect has passed off by beating the soles of the feet, walking him about, or dashing cold water on the face. Remember if the patient goes to sleep at this stage, it will be the sleep of death.

LUNAR CAUSTIC (*nitrate of silver*).

Lunar caustic, or nitrate of silver, has been swallowed by accident when used for touching a sore throat, &c.

Symptoms.—Burning pain, similar to arsenic.

Treatment.—Give a large teaspoonful of common salt in a glass of water, and repeat this every ten minutes. Then give a dose of castor-oil, and linseed-tea, or barley-water, for a drink.

MERCURY (*calomel, corrosive sublimate, red precipitate, vermillion, &c.*)

Symptoms.—Metallic taste in mouth, burning pain in the throat, stomach, and bowels, vomiting, very painful purging, and cramps.

Treatment.—Give the white of an egg in a little water, repeat this twice more with five minutes between each time, give large quantities of milk or flour and water, then linseed-tea.

NITRE, OR SALTPETRE.

Symptoms.—Similar to arsenic.

Treatment.—Give plenty of flour and water, then linseed or sweet oil

OPIUM (*see Laudanum*).

PHOSPHORUS (*lucifer matches*).

Symptoms.—Great excitement of the whole system; other effects like arsenic.

Treatment.—Give large quantities of warm water with magnesia, chalk, or whiting, or even flour, stirred in it; encourage vomiting, but give no oil or fat of any description.

POISONOUS PLANTS OR SEEDS.

False mushrooms, or anything of the kind picked up by children, but which you can not tell at the time.

Treatment.—Empty the stomach by any emetic you have at hand: warm water, mustard, salt, or soap, warm chamomile tea, &c. If there be no purging, give a good dose of castor-oil or olive-oil. If the patient be faint or sinking, give stimulants.

POTASH (*soda, ammonia, sal-volatile, salt-cake, disinfecting fluids of concentrated solutions of soda or potash*).

Symptoms.—Heat, pain in stomach, vomiting, and purging.

Treatment.—Vinegar and water, oranges, lemons, sour beer or cider, or sour fruit. Afterwards, olive, linseed, or any wholesome oil.

PRUSSIC ACID (*oil of bitter almonds, laurel-water, cyanide of potassium, used by photographers and others*).

Symptoms.—If the quantity be large, death takes place instantly, but smaller quantities produce giddiness loss of sight and fainting. The peculiar smell is often perceptible about the mouth.

Treatment.—Give sal-volatile and water, and apply a bottle of smelling-salts to the nose, dash cold water on the face, and give stimulants.

STRYCHNINE (*rat poison, &c., nux vomica*).

Symptoms.—There is lock-jaw, twitching of the muscles, convulsions, the body is bent backwards, so as to rest upon the feet and head only.

Treatment.—Try to empty the stomach by an emetic; then give linseed-tea or barley-water, and to an adult thirty drops of laudanum occasionally to relieve the spasms. There are other remedies, but not such as can be used without a doctor being present.

TARTAR EMETIC (*see Antimony*).

ZINC OXIDE.

SYMPTOMS *and Treatment.*—As in copper.

IRON (*Sulphate of iron, or copperas, or green vitriol*).

SYMPTOMS.—Colic pains; constant vomiting and purging; violent pain in the throat, with tension of the Epigastrium. Indeed all the symptoms of irritant poisoning.

Treatment.—Magnesia or the alkaline carbonates should be given largely.

Antidote.—Carbonate of soda.

IVY POISONING.

Apply soft soap freely to the affected parts; or bathe the poisoned skin frequently with weak tincture of belladonna.

Hartshorn gives almost instant relief from the effects of the poisonous bites of all insects, vermin, and reptiles, by bathing the parts bitten very freely.

Always bear in mind that cases of poisoning admit of no delay. In many diseases and accidents an hour or two may be of no consequence, but here we must think of minutes, and the life or death of the patient will depend how you employ them.

PART V.

Hygiene, The Preservation of Health, and Guide to Long Life.

Equally important to the cure of ill health is the preservation of sound health. The first interruption to health is most usually a disturbance of the stomach. Indigestion may commence in the earliest periods of infancy; there, however, the fault rests not with the patient but the nurse.

Many a person's health has been ruined by injudicious nursing during infancy. Early gormandizing, stuffing of sweets, and late hours, tend much to weaken the digestive organs of life. A greedy child seldom makes a healthy man. Children should have a diet suited to their juvenile stomachs,—should have an appropriate table to themselves,—and should keep appropriate hours.

Mixed dishes, rich soups, confectionery, strong drinks, staying up late at night, neglect of exercise, and a residence in a close and confined atmosphere, engender the germs of future discomfort and disease as surely as the grain deposited in the field yields, in due course, its natural produce. These peccadilloes may succumb, however, to a few surfeits; and an illness or two causes the mother to be more careful, till the stripling is packed off to school, or arrives at what are called years of discretion, when possibly, he is left to shift for himself. A fire or flood has a beginning—so has a complaint. Death rarely visits us without some premonitory symptoms, any more than the flames burst forth or the waters rise without a previous (albeit short) warning; and there are few forms of failing health but may be traced to incautious or reprehensible conduct.

Hard and coarse, or rich and sumptuous living, excessive fatigue, in-door imprisonment, or loose abandonment and unchecked idleness,

small tipplings and stolen smokings, or downright drunkenness and an everlasting tobacco-breath, all tend to bring about the state of health in question. These phenomena constitute a powerful array of provocations, but there is yet another underplot of as vast a magnitude and as deadly a tendency, which, to omit mention of, would be neglecting a most important duty.

Man is not merely an eating animal, and consequently there are other ways of wasting life than by overworking the stomach. It were a curious inquiry to seek to know how the abuse of the separate powers of the body can derange the whole, or bring our days to a premature termination; but *it does*, and we must be content to go along with the progress of the times, and catch our information as it comes.

There are other kinds of depressing habits, besides free living and intemperance—besides rioting and the common vices of street and tavern life—besides the devotion to hard study or hard work, or the addiction to perpetual pleasure-seeking—besides the unreined indulgencies commenced by the votaries of licentiousness and dissipation, scarcely with the down of manhood on the chin—we mean the still earlier delinquencies of the youthful sensualist, acquired possibly before his palate may have known other than the taste of water, or his thoughts have strayed from the belief that the other sex differed from himself, but who, on the initiation or discovery of the new-found pleasure, knows no limit to its gratification. This delusive infatuation is personal sensuality.

The evil does exist, and most fearfully does it prevail; if, however, it were unattended with any injury to health, all this tirade might be unnecessary, might indeed be considered obtrusive, might be looked upon as impertinent; for surely what is practised in quiet—what is unseen—can offend no one, else many of the habits of life might shock the delicate and refined; but alas! the injury is not only of the passing hour, it is of the age to come, and it is fitting that if the deluded be careless of themselves, they have no right to inflict injury on their successors.

This evil has its commencement in earliest life. The secret is acquired by example, or not unfrequently is disclosed by a *liaison* of Nature herself. Sooner or later, however, if untaught, it forms a part of the natural impulses, and is developed with growing years. The act, which is afterwards resorted to, holds such fascinating influence over a youthful mind that the culprit conceives he has discov-

ered the climax of earthly enjoyment, and hermitizes himself on every occasion for its realization. The maturer mind, yet unacquainted with its desolating tendency, and whom fear, prudence, or ineligibility forbids sharing his fortunes and his happiness with a suitable companion, hails it as the refuge for the destitute, and gradually prostrates his dignity in the homage of his baseness.

The sinfulness of falsehood, of idolatry, and of crime was tableted on stone and exhibited on the Mount to the righteous and the renegade; and shall a violation of the compact which ties man to his posterity, between Nature and her children, of not less enormity, escape rebuke or not be forbidden? It is the stumbling-block of nine-tenths of mankind, and (why should the charge be withheld?) not a few of woman-kind; it is the secret worm that gnaws at the heart—that saps the trunk of its sustenance, and robs the soul of its nobleness and godlike power; and shall we, generation after generation, hide our knowledge of this demon poison, blush to admit our cognizance of its existence, and suffer it to go on undermining the sapling mind of man, and blast the else luxuriant produce before the meridian of existence be arrived at?

Having described the principal besetting propensities of early life, and which it requires no very lengthened argument to prove lead to the break-up of the healthiest constitution, it follows that what has been pointed out as productive of ill health should be avoided.

Bad habits must be overcome with a resolute will. Determined resolution is all that is required. Nature will assuredly assist in the attempt. If a man find that by eating less, by avoiding stimulative drinks, by shunning bad habits, and by adopting a simple mode of living, he becomes better in health, and in reality feels the comfort of living free from uneasiness, and what is equally important, sleeping free from fright, he must indeed be a simpleton if he can not control his appetites and keep to his new regulations. What can be more fearful than a night spent in restlessness, in tossing and twisting, in hideous dreams, with the necessity of turning out at a fixed hour in the morning, unrefreshed, and with onerous duties to go through during the day? What can be more depressing than to feel one's self incompetent for those very duties—to be harassed with, possibly, headache, with languor, with depression, with positive debility, with real nervousness—to know that what we have to do *must*, or at least *ought* to be done; that probably on its success depends our position in life; and yet, despite all our energies and

conditions of its necessity, we find ourselves thoroughly incompetent to get through the day's work? Admitting all this, it is surely worth the experiment—and the success of it may be guaranteed—of trying, or rather determining, to live according to the new regimen.

We now enter on the consideration of "*How to live!*" "*What to eat, drink, and avoid!*" and on the various other observances the invalid, however indisposed he may be to adopt, finds it imperative to submit to.

DIET.

Without we eat and drink, we die! The provocative to do both rests with the appetite, which, in proeess of time, becomes a very uncertain guide; for the palate will often induce a desire and relish for that which is most mischievous and indigestible. The old saying of "eat what you like" is now shunned by everybody of twenty years' experience. Still, without appetite, it is a very difficult affair to subsist—for the pleasure depends chiefly upon the relish. The relish may become, as has been stated, a vitiated one, but it is quite possible to make the stomach, by a little forbearance and practice, as enamored of what is wholesome and nutritious, as that which is hurtful, and not concoctible. Food consists of solids and fluids, which severally have their different degrees of digestibility. It is proverbial that mutton is easier of digestion than beef—that fresh food is more readily dissolved in the stomach than salt—that it requires a pretty strong stomach to digest tough beefsteaks, and that he is a fortunate fellow who is not reminded now and then of having feasted on salmon twelve hours after, instead of four; but there is vast difference between the digestive powers of different individuals. It is impossible, therefore, to impose rules as regards specific quality alike for all. The grand principle in dietics is for every person to judge for himself.

It certainly is a very simple remedy for any one to diminish the quantity of his food, say one third, or if necessary to one half; but the proposal generally meets with opposition, under the idea that as strength can only be acquired from the food which is consumed, it follows the more there be taken the greater will be the degree of strength got from it. Such a view is most erroneous, for it is only in proportion to that which is digested, and amalgamates kindly with the system that "goes to the good."

The delicate should feed carefully, not abundantly: it is not quantity which nourishes, but only that which assimilates. If a profusion be taken, it gives extra work to every part of the digestive economy —the stomach is longer employed—a greater supply of blood is required and furnished to the stomach, to assist in the creation of the stomachic secretions, to aid in dissolving the food; chemical action being always in proportion to the amount and dissimilarity of ingredients concerned, of course must be more violent in relation to the quantity, and hence there is greater "uproar" and confusion in the system to get through the task; consequently we have a quicker pulse, more excitement, and more exhaustion; then follow flatulence, heaviness, and dullness, and sometimes sickness and pain. Let any person laboring under indigestion, or who may not feel comfortable after meals, just try and take one third less both of liquids as well as solids, and he will be agreeably surprised at the result. How common it is for man to give himself now and then, a holiday—to take rest, as he calls it, but he only gives it to his legs and his arms. On those occasions, having nothing else to do, he eats and drinks heartier than usual, and transfers his work to his stomach and digestive organs. He had better reverse the practice generally, as he would probably derive more benefit from resting his stomach than his body.

Another important feature is simplicity and singleness of living. Let each meal consist of as few articles as possible. Bread, meat, and one kind of vegetable, are better than a mixture of many others, besides puddings or pastry, cheese and salads.

The feelings must be studied to arrive at a correct knowledge of when enough has been taken. By eating too fast we are apt to eat too much, for hunger requires time as well as quantity to be appeased. In like manner, thirst may be quenched as effectually by half a pint of water as by a pint, provided it be drunk slowly; and hence, owing to the rapid manner in which draughts are swallowed to allay thirst, we are apt to drink too much. A good way to ascertain what quantity is most fitting, is to study the feelings after a meal, when that quantity which is digested the easiest, and produces the least discomfort, or in fact sensation, is the one to be selected.

One meal should not too quickly follow another—four hours, at least, should intervene. Three meals a day are sufficient; a moderate breakfast, a good dinner, and a simple tea; but when a little and often are advised, a biscuit, lunch, or a cup of gruel for supper

may be added. A very important observance is *to eat slowly* and *to masticate thoroughly;* in fact, the food should be suited to the teeth. *Never hurry through your meals, nor proceed to violent exercise immediately afterwards; never eat too much nor too often.*

When you are puffed out after eating, it is a sure sign you have taken too much.

Always leave off satisfied, but never filled to repletion.

Never take what you know from experience disagrees with you.

Half an hour's rest should always precede and succeed a hearty dinner; but sleeping after dinner, except it is a custom, and the diner be an elderly person, is decidedly bad. The dozer invariably wakes up feverish, with an increased pulse and a clammy mouth, and the process of digestion by no means advanced.

Agreeable and lively conversation carries the digestion on unknowingly, whereas the man who sleeps or watches and broods over his symptoms retards their process, and makes his meal indeed a weary one. The dinner should be the substantial meal of the day. Meat breakfasts and meat suppers are injurious to persons who take but little exercise.

Special cases require special diet; and there are some forms of illness wherein only a farinaceous diet is admissible; others where even water is only allowable, and every medical man is acquainted with cases where the patients have subsisted on that element only, from ten to twenty days. Temperance in diet, water for drink, and hard work for exercise, will save and prolong many a life if the trial be but made. This fact is certain,—the diet should be modified by the occupation of the party—the more bodily exercise, the freer and more generous may be the living; the lighter the exercise and the more confining and sedentary the engagements, the simpler and blander must be the diet.

Where a man has to *study* living, he must keep under his desire for variety. However palatable the joint of veal, or the cutlet, or any savory preparation of it may be, it is sure to cause repentance.

Beef has the same objections. It unquestionably is a delicious meat, but only fit for a man in rough and prime health. Than cold roast beef no joint is finer; it is a most tempting dish, and people generally eat too heartily of it. Boiled beef, both hot and cold, is a great luxury, but only suitable for the hearty and strong.

Meat pies are very objectionable for invalids. Pork, in all its forms, is very difficult of digestion with delicate persons, whether

as bacon or as salted pork, or whether as young or mature roasted. Pork chops are notoriously night-wakers. Invalids are not to be interdicted every kind of nourishment save mutton; but, of all meats, it suits the stomach the longest and best.

The brain, tongue, heart, sweetbread, liver, kidneys, tripe, &c., of animals are severally nutritious, but vary in easiness of digestion.

Sweetbread, lightly and plainly cooked, forms a good meal for an invalid.

Tripe is easy of digestion, partaking cautiously of its appendages, butter, onions, &c.

Rabbits, well boiled (but not covered with onion sauce), if young, may be eaten now and then; jugged hare, taking sparingly of the gravy, is occasionally allowable.

There is no objection to the now and then substitution of poultry, such as fowls and chickens, breasts of turkey, &c. The breast of all birds is the most juicy and nutritious part, and that of the young more so than the old.

Game is considered rather easy of digestion, especially venison, partridges, pheasants, and wild birds generally; but the chief objections to these dishes are the accompaniments, the sauces, the stuffing, the jellies, &c.

Lamb is very excellent, and light of digestion, avoiding the fat, and usually suitable for invalids.

Curry is an occasionally permissible dish; rabbits, fowls, chops, cutlets, and many other small articles so served, vary the fare, and rouse a torpid stomach to increased action; but people must judge for themselves. With many, curry is too stimulating, whilst with others it facilitates digestion and allays morbid irritability.

Meat of nearly all kinds is generally in season, or can be obtained all the year round, but it is most nourishing when it feeds on what is in season, or is most plentiful. Grass is a better food than hay. Stall-fed oxen are fat and less wholesome than those of the leaner kind who have their run in the meadows.

It must be borne in mind that the diet should be lighter in summer than in winter; this observation holds good as to liquids as well as to solids.

Eggs, lightly cooked, as when poached or boiled for three minutes, are good, especially the yolk. Fried eggs, as in pancakes, omelettes, &c., are bad. Some people find eggs nutritious taken raw, in tea or coffee, or beaten up with wine.

Salmon, eels, herrings, &c., abound in oil, and are enemies to digestion. Many diseases arise from eating fish, particularly if the fish be bad; fish is unwholesome when out of season.

Dried and salted fish are by no means to be recommended to weak stomachs.

Shell-fish are all, with the exception of the oyster, great disturbers of the stomach. Oysters are more digestible raw than when cooked; for roasting, scalloping, or stewing only hardens them, besides occasioning them to be more indigestible, on account of the butter mixed in their preparation. They do not agree with all persons. A great object is to procure them fresh.

VEGETABLES.

Bread comes under the denomination of a vegetable, and is best known as home-made, cottage, white, and brown bread. We have varieties in the form of biscuits, pies, and puddings, made from the same material—flour. New bread is very unwholesome; it should, by everybody, be eaten one day old. Invalids should have it toasted, and eat it only when cold, buttered or not, as may be. It must be recollected that bread is always imperfectly baked, the top and bottom being the only parts thoroughly done; hence toasting completes the process. White bread has a tendency to constipate the bowels; it is rendered more astringent by the alum the bakers mix with it. Brown bread, being mixed with coarser materials, that is flour not so well pulverized and sifted, works its way, and helps to preserve the bowels in a healthy and lax state. The best plan is to alternate their consumption, or take the brown bread for breakfast and tea, and the white for dinner; or reverse it if preferred.

Bread is usually fermented with yeast, or leaven, but of late years unfermented bread has commanded great consumption; it is certainly more wholesome—more saving in the preparation, both as to time and money, and, what is well to know, less constipating and indigestible than fermented bread proves to be to many. It not only helps to keep the bowels in ordinary action, but is positively more digestible, and instead of being productive of headache, acidity, irritability of stomach, flatulence, and other symptoms of dyspepsia, it is corrective and avertive of all these.

The several portions of our food go to form the various structures of our body. Such as meat and bread form especially the flesh, bones, and blood of the human being; portions of their composition go di-

Digestibility of Food, in Order of Time.

Quality.	Preparation.	Time of Digestion. H. M.
Cole slaw	———	1 00
Rice	Boiled	1 00
Pig's feet, soused	Boiled	1 00
Tripe, soused	Boiled	1 00
Eggs, whipped	Raw	1 30
Trout, salmon, fresh	Boiled	1 30
Trout, salmon, fresh	Fried	1 30
Soup, barley	Boiled	1 30
Apples, sweet, mellow	Raw	1 30
Venison steak	Broiled	1 35
Brains, animal	Boiled	1 45
Sago	Boiled	1 45
Tapioca	Boiled	2 00
Barley	Boiled	2 00
Milk	Boiled	2 00
Liver, beef's, fresh	Broiled	2 00
Eggs, fresh	Raw	2 00
Codfish, cured dry	Boiled	2 00
Apples, sour, mellow	Raw	2 00
Cabbage, with vinegar	Raw	2 00
Milk	Raw	2 15
Eggs, fresh	Roasted	2 15
Turkey, wild	Roasted	2 18
Turkey, domestic	Boiled	2 25
Gelatine	Boiled	2 25
Turkey, domestic	Roasted	3 30
Goose, wild	Roasted	2 30
Pig, sucking	Roasted	2 30
Lamb, fresh	Broiled	2 30
Hash, meat and vegetables	Warmed	2 30
Beans, pod	Boiled	2 30
Cake, sponge	Baked	2 30
Parsnips	Boiled	2 30
Potatoes, Irish	Roasted	2 30
Cabbage, head	Raw	2 30
Spinal marrow, animal	Boiled	2 40
Chicken, full grown	Fricasseed	2 45
Custard	Baked	2 45
Beef, with salt only	Boiled	2 45
Apples, sour, hard	Raw	2 50
Oysters, fresh	Raw	2 55
Eggs, fresh	Soft boiled	3 00
Bass, striped, fresh	Broiled	3 00
Beef, fresh, lean, rare	Roasted	3 00

Quality.	Preparation.	Time of Digestion.
Pork, recently salted	Stewed	3 00
Mutton, fresh	Broiled	3 00
Soup	Boiled	3 00
Chicken soup	Boiled	3 00
Aponeurosis	Boiled	3 00
Dumpling, apple	Boiled	3 00
Cake, corn	Baked	3 00
Oysters, fresh	Roasted	3 15
Pork steak	Broiled	3 15
Mutton, fresh	Roasted	3 15
Bread, corn	Baked	3 15
Carrot, orange	Boiled	3 15
Sausage, fresh	Broiled	3 30
Flounder, fresh	Fried	3 30
Catfish, fresh	Fried	3 30
Oysters, fresh	Stewed	3 30
Butter	Melted	3 30
Cheese, old strong	Raw	3 30
Soup, mutton	Boiled	3 30
Oyster soup	Boiled	3 30
Bread, wheat, fresh	Baked	3 30
Turnips, flat	Boiled	3 30
Potatoes, Irish	Boiled	3 30
Eggs, fresh	Hard Boiled	3 30
Green corn and beans	Boiled	3 45
Beets	Boiled	3 45
Salmon, salted	Boiled	4 00
Beef	Fried	4 00
Veal, fresh	Broiled	4 00
Fowls, domestic	Roasted	4 00
Soup, beef, vegetables, and bread	Boiled	4 00
Heart, animal	Fried	4 00
Beef, old, hard, salted	Boiled	4 15
Soup, marrow-bones	Boiled	4 15
Cartilage	Boiled	4 15
Pork, recently salted	Boiled	4 30
Veal, fresh	Fried	4 30
Ducks, wild	Roasted	4 30
Suet, Mutton	Boiled	4 30
Cabbage	Boiled	4 30
Pork, fat and lean	Roasted	5 15
Tendon	Boiled	5 30
Suet, beef, fresh	Boiled	5 30

Nutritiousness of Food.

Kind of Food.	Preparation.	Per cent. of Nutriment.	Time of Digestion. H. M.	Ease of Digestion.
Almonds	Raw	66	– —	–
Apples	Raw	10	1 30	5
Apricots	Raw	26	– —	–
Barley	Boiled	92	2 00	5
Beans, dry	Boiled	87	2 30	4
Beef	Roast	26	3 30	3
Blood	—	22	– —	–
Bread	Baked	80	3 30	3
Cabbage	Boiled	7	4 30	2
Carrots	Boiled	10	3 15	3
Cherries	Raw	25	2 00	5
Chickens	Fricasseed	27	2 45	4
Codfish	Boiled	21	2 00	5
Cucumbers	Raw	2	– —	–
Eggs	Whipped	13	1 30	7
Flour, bolted	In bread	21	– —	–
Flour, unbolted	In bread	35	– —	–
Gooseberries	Raw	19	2 00	6
Grapes	Raw	27	2 30	6
Haddock	Boiled	18	2 30	4
Melons	Raw	3	2 00	5
Milk	Raw	7	2 15	5
Mutton	Roast	30	3 15	3
Oatmeal	Baked	74	3 30	3
Oils	Raw	96	3 30	3
Peas, dry	Boiled	93	2 30	4
Peaches	Raw	20	2 00	4
Pears	Raw	10	3 30	6
Plums	Raw	29	2 30	4
Pork	Roast	21	5 15	2
Potatoes	Boiled	13	2 30	4
Rice	Boiled	88	1 00	10
Rye flour	Baked	79	3 30	3
Sole	Fried	21	3 00	4
Soup, barley	Boiled	20	1 30	7
Strawberries	Raw	12	2 00	6
Turnips	Boiled	4	3 30	8
Veal	Fried	25	4 30	2
Venison	Broiled	22	1 30	7
Wheat bread	Baked	95	3 30	3

rectly to support and nourish the bones. Vegetables, fat, and sugar, have a destination of their own. Now, in the process of refining flour, or making it white and pure as it is called, the millers rob it of a very valuable quality, its saline ingredients, which ingredients are indispensable to the growth of the bones and teeth, and are still required to keep them in a healthy condition. Hence do we attribute the weakly formed bones, as evinced by the bent limbs and bad teeth of the children who have been fed chiefly on the finest wheaten flour, or bread which, as has been just now stated, is divested of its salts. The coarser food of the poor secure them stronger limbs and finer figures for their young children, where health in other respects is born with them.

It is suggested that mothers and nurses, when suckling their young charges, should consume brown bread, if unfermented so much the better; for, upon the principle that the body derives its nourishment from food analogous only in its elements to itself, so it follows that as the child is only fed from the parent or nurse, it must owe its preservation to the soundness of the source from which it draws its supply.

Biscuits, when well and crisply baked, are wholesome and easy of digestion

Pies and puddings are made, of course, with flour and butter or suet, and from a closer intermixture (apart from the qualities of butter), are less digestible than bread. Bread puddings, made with unbuttered slices of bread, form an excellent meal, or an adjunct to one.

Macaroni or vermicelli, boiled in beef tea or broth, makes a nice soup.

Macaroni or vermicelli puddings are excellent.

Rice puddings, baked and boiled, are both capital forms of diet. The former should be made and taken without butter, and with very little sugar.

Barley broth, porridge, gruel, sago, tapioca, rice powder, and other similar preparations, are severally admirable articles of nourishment.

Baked potatoes are less nourishing than boiled, and mealy potatoes are more digestible than waxy. Potatoes in general engender flatulence.

Onions lose their stimulating influence by boiling, and are then considered wholesome.

Allowances must be made for idiosyncrasies, or peculiarities of constitution; it often happening that those soft, pulpy vegetables which appear to melt in the mouth quickly, when swallowed, produce acidity, or digest badly, and thereby alter the action of the stomach altogether, inducing wind, distention, and innumerable other sensations that subside only as the acidity is neutralized or passed forward; whereas, at other times, greens, turnips, and carrots set lightly on the stomach, and are disposed of without difficulty. Invalids, except they have reliance on their stomachic process, from their feelings, should not venture on them.

A FEW REMARKS ON CONDIMENTS.

Condiments are usually contrivances of man to goad a relish, to provoke an additional zest, for our ordinary food. They doubtlessly succeed in their purpose, as the drover by his nail-pointed staff impels the poor tired ox to market; but the overwork is not unattended with mischief. Mustard, pepper, and salt, we become acquainted with from our earliest knowledge of cookery; and we look for them with meat as we do for bread and cheese to follow; but too much is worse than none. Pickles, sauces, oils, &c., are also acquirements that betoken man has not much confidence in his own appetital resources. At best they are but messes, and fortunate is he who, needing them, they agree with. Savory or kitchen herbs are merely ticklers of the taste—they do neither harm nor good; certainly not the latter, whilst they may disagree with a weak stomach.

Too much sugar is productive of dyspepsia. The effects of early addiction to candy, &c., are manifested in children by their foul little breaths and decayed teeth, and what should exempt adults from a corresponding consequence, more or less? Some tea-drinkers will take three or four lumps of sugar with each cup, which, allowing from four to half a dozen cups, makes about two or three ounces of sugar, and this twice daily. The French drink of "*eau sucre*," although considering it fattening and salutary, we consider most objectionable. Coffee should be sparingly sweetened; the taste and flavor of the roasted berry is lost when oppressed with sugar.

LIQUIDS.

Half, or more than half, of the aliment we consume is liquid; but there is no doubt, independently of that, we all drink too much.

An excellent chapter might be written on water. It is the mildest, most necessary, and salutary drink we have; it may, notwithstanding, be taken to excess, and those who dispute it will have reason to repent if they venture on the experiment of taking it to the extent some enthusiastic hydropathists recommend. As a drink to allay thirst, no fluid or modification is equal to it, and it is best taken in its pure state.

If man were to confine himself to water alone as his common drink, he would never need any other. It assists the various processes of life best in its unadulterated state, and the real water-drinkers, not the converted tipplers, but original imbibers of the spring, are undoubtedly the most healthy and long-lived.

From water we will proceed to the milder alteration of it—tea, coffee, and the like. The effect of tea depends upon the quality and strength—strong green tea and strong mixed tea are as hurtful as fermented liquors. In point of nourishment, there is none but what is derived from the addition of milk and sugar.

Coffee is less objectionable, but it must be taken moderately; it is then nutritive and moderately stimulating. Cocoa and chocolate are modifications for the tea or breakfast meal, and agree variously with different individuals; they are both preferable to tea as regards nutriment, but their effects must be watched. Milk contains all the elements necessary for the nutrition and growth of the human body, but it does not suit the stomach. It is a very uncertain commodity in cities; but it differs also in the quality as drawn from the cow, the milk of the morning and evening seldom corresponding—of course, it is much modified by the drink and health of the animal. Gruel, barley-water, and other farinaceous solutions, can not be too highly eulogized.

Malt liquor is less irritating than wine or spirits, and consequently less objectionable. Much of either is injurious. Ale in quantities acts on the skin and kidneys, and creates irritation in both. Of cider, ginger-beer, lemonade, &c., the dyspeptic must use sparingly. The objections to soda-water exist in the quantity and frequency of the draught; else, now and then, it is an agreeable drink.

COOKING.

It is somewhat presumptuous to trespass on the department of cookery, for housewives are generally the best judges as to the relative value of boiling and roasting. Whichever be the process

selected, it should be carried out. Under-done meat is as injurious as over-done; and it is a popular error that states half-done meat to be more nourishing and digestible than well-done.

Baked meats are less wholesome than either boiled or roasted; they become "soddened," and have an "oveny" flavor. However, a great improvement has been effected in modern kitchen-ranges, and the objection is becoming less tenable. The same remarks apply to the cooking of potatoes.

Frying is a process objectionable chiefly on account of the butter employed, and the absorption of the fat into the meat.

A word or two upon fats—they are all slow of digestion. Dr. Beaumont says, mutton-suet takes four hours and a half to digest, and beef-suet five hours.

Fat, when swallowed, becomes changed into oil by the warmth of the stomach, and floats on the surface of the food therein, until, by degrees, it becomes divided into myriads of little globules, as seen when water and oil are skaken up together, and gradually mingles with the mass, and thus becomes digested.

QUANTITY OF FOOD.

The secret of living certainly rests with the quantity, but it involves several considerations, and the sick pupil must be a diligent observer.

Every person should regulate the quantity by his feelings. He ought to know when he has eaten enough. It is impossible to say with preciseness how much in general is requisite for every individual; for our appetite and capacities vary every day. This fact is beyond dispute, that more maladies are created by over-feeding than under-feeding; and it is also true that the majority of us consume more than there is really any occasion for. Every man in search of health should reflect for himself.

The better experiment is, if, on any given day, uncomfortable feelings ensue after dining, try the next time to satisfy yourself with one third less; if the same result follow, try the following day one half; and if diminishing the quantity still more do not succeed, try a day's fast. Dyspeptics accustomed to feed freely will find their health speedily improved by taking less: let their selection be judicious, and eating slowly and carefully what they partake of. Above all, simplicity of living should be strictly observed, and the motto on every plate should be, "Temperance is true luxury."

People now and then run into the opposite extreme, and endeavor to subsist on too little. The stomach requires only nourishment to work upon; hence bulk as well as nutriment is indispensable.

TIME OF EATING.

To the rich man, "when you are hungry," says the adage; to the poor man, "when you can." The latter advice may do for the needy or the ever-at-work man; but regularity of feeding is of great assistance to the feeble stomach: a man, to be healthy, should keep time like a clock in all his hygienic duties, and like many of the other daily functions of life, his appetite will, if thus encouraged, always attend him at the accustomed hour. Our positions in life must modify our meal times. There is nothing, however, like military regularity. One meal should never succeed another until the last is pretty fairly digested. Abernethy advised four hours between each. Eating little and often is a bad plan. Hence lunches, and buns, and crackers, are severally injurious; they spoil the appetite for the more substantial meal, by calling into play—which a simple crust will do—the whole machinery of the domestic economy.

SNUFFING AND SMOKING.

Medically speaking, they are both abominably unwholesome. To those whom smoking causes to spit, it is productive of great depression and considerable nervous irritability; to those who say they swallow their saliva, it is equally pernicious; to those who are insensible to secretion, it acts locally, and its influence is conveyed by the nervous extremities to the brain. What are the properties of tobacco? Sedative, stupifying, creative of vomiting, and if swallowed in the form of infusion, poisonous.

Let any man ask himself, after spitting and puffing, if he feels better for it; the reply generally is, "Oh it is so soothing—it gives rise to such agreeable thoughts—it carries the mind back to the past—it makes a man comfortable even in his troubles. How happy every one appears with a cigar or a pipe in his mouth." A great deal of this may be true, but, on the other hand, the great smoker is generally shaky and nervous, and, like the drinker, never happy but when engaged in his favorite propensity. Of what use is he then to anybody, or even to himself? None. The little smoker, the occasional smoke-breather, before he gets through his first—or give him credit for two or three—is left with a dry mouth and a nasty

taste—a desire to drink; and although some will deny that smoking provokes drinking, except coffee or water, few can dispense with grog, ale, or wine. Other people it muddles, makes them swimmy, and very disagreeable to talk to. To say nothing of the nuisances of smoking, the habit, captivating and socializing as it may be held to be, is decidedly bad—very bad for delicate persons. As to chewing, it is so beastly a habit, that there is little to fear of an invalid resorting to it. It is equally pernicious, nay more so, than smoking. Snuff-taking is also very detrimental to the health; it obscures the intellect, and has a depressing effect on the system. Young men should particularly avoid becoming snuffers; a very short indulgence makes them look ten years older. These habits are very easy to acquire, and very difficult to leave off; but it is not as some people say, dangerous to abandon them at the eleventh hour of your life.

LATE HOURS.

All nature sleeps at night, and why should not man? The great globe, and winds, and waves move on, 'tis true, and the heart of man beats, and he himself respires, but these things are necessary to keep up the general order. The darkness of night is a simple proof that rest and sleep should be encouraged at that time. A truce to this. Persons who value their health will not turn night into day. Ten or eleven should never find them unprepared to go to bed. It is proverbial, because certified by actual knowledge, that the rest obtained in the early part of the night is more refreshing than that gotten in the morning. Rest is as essential as exercise. The vital energies become exhausted after their due performance, and require repose to regain their strength for the ensuing day. This is a physiological truth; and if that rest be denied, it becomes an infringement on a law of nature, and that is sure to bring down speedy vengeance. What are the feelings after being up all night? How doubly heavy is the sleep the next night?—which, if not taken, the exhaustion becomes an illness. Evils are of two kinds—too much is as bad as too little, and he who retires early should rise early.

It becomes a disease where sleepiness prevails at a time when we ought to be getting up, instead of when going to bed; but one of the best remedies is to retire early, other things being attended to; and nature will do the rest.

Sleeping apartments ought to be capacious, dry and well ventilated. The bed should not be too soft, and the bed-clothes should be as

light as may be consistent with necessary warmth. The inordinate quantity of bed-covering sometimes used has a most relaxing tendency, by promoting excessive perspiration, and by rendering the body over susceptible to external injurious impressions.

The excellence of early rising, and its inspiring influence on both body and mind, have been themes for the poet's song and the sage's sermon. Early rising promotes cheerfulness of temper, opens up new capacities of enjoyment and channels of delight to which the sluggard must be insensible. It increases the sum of human existence, by stealing from indolence hours that would else be utterly wasted, and, better still, unquestionably conduces to longevity. All long-livers have been early risers. Now, as the habit of retiring to bed at late hours will hardly admit of early rising, therefore the necessity of refraining from the one in order to secure the advantages of the other. From six to eight hours' sleep are generally held to be sufficient, and no doubt on the average are so. Our sleep is regulated much by the season. In winter, people lie longer, on account, as they say, of its being too dark to get up early. There is some plausibility in the reason; but the system in cold and dark weather is more prone to sleep than in light and sunny times. Invalids need generally plenty of bed-rest; but they should procure it by going early to bed. There is more health and strength to be found in the practice of seeing the sun rise, than in looking at it at any other part of the day.

EXERCISE AND FRESH AIR.

Exercise and fresh air should be inseparable. They were born with us; but man built houses to shut out the air and lock himself in. It would appear, in proportion to our advance in civilization, we are setting at defiance the elements of health and longevity. Man, in a state of nature, had to seek his food, to hunt for it, to scramble for it, and hence the difference between the stature and health of the wild Indian and the civilized man. Now, man need not stir from his couch for a meal. Look at the difference between the active mechanic, the artizan, even to the ill-fed laborer, and compare him to the confined clerk, the storekeeper, or the indefatigable stay-at-home of a master, and the evidence of one's eyesight must proclaim in favor of the former—must proclaim that exercise, with moderate sustenance, contributes more to health than high feeding, indolence, and every other enjoyment.

A pensive man, absorbed in his own thoughts, looking from his own window, little dreams of what a tissue of moving atoms he is composed. His blood is travelling onwards perpetually; fluids are being deposited on the surfaces and again absorbed; his heart is continually beating; his lungs expanding and contracting; and even the viscera have their folds in incessant motion. His very structure adapts him for locomotion; and the composite movements alluded to are mainly dependent upon that locomotion for their healthy persistence, and yet, like a tired horse, how loth to stir. What a subject to dilate upon. It is a science in itself.

There is nothing still in nature but man (comparatively), and he is called restless. How many of our diseases are attributable to inactivity and confinement.

That exercise and fresh air are essential and salutary—that they are invigorative—that they afford strength and power—that they beget and preserve health, who can deny? That on the contrary, indolence and confinement sicken the heart, sear the mind, impoverish the body, and shorten life, there can not be a single doubt. What, then, is it that makes men prefer the latter?—if not prefer it, yield to it? Necessity? In some degree it is, but in a greater degree it is either indolence or ignorance, perhaps both. The moment a man gets comfort around him, he prefers his ease, and there is a spirit of misappropriation present in young men's minds leading them to seek relaxation of another, rather than a healthier kind. The theatres, the taverns, the town rendezvous, &c., have attractions more powerful than the morning stroll in the high roads and the fields, and if the one be indulged in, the other can not be availed of. Exercise and fresh air are essential for the due performance of every function of life. By their aid digestion is effected, the proper action of the bowels and skin sustained, sleep secured, a clear head acquired and life preserved.

Of all kinds of exercise, walking is the most natural—horse-riding the most delightful; it is also the most advantageous, inasmuch as a greater distance can be got over—a greater variety of air be respired, at the cost of positively more exercise and less fatigue.

In travelling select the outside—people only take colds by fearing them; an umbrella, or a great coat, will always keep off the wet. The time of taking exercise should be between meals, neither immediately upon, or just before one. The amount must rest on the time that can be spared—distance is less an object than time. A valetudina-

rian should be out in the open air as many hours as possible during the day; and a man in health, to keep so, should, at least, be on foot three or four hours daily. The feeble plead inability to get about, and the indolent will justly tell you, exercise doth not agree with them; but the habit of inactivity once broken, it is astonishing how luxurious exercise becomes. Weak parts become strong, and health and strength are acquired every day.

By exercise abroad, not only do diseases of the body give way, but also those of the mind. A fit of blue-devilry is invariably cured by a walk in the open air. Exercise cures constipation, corpulency, nervousness, and all forms of indigestion. A simple evidence of the importance of exercise is to be found in the majority who are busily engaged during the week, and who take what they call rest on Sunday—that is to say, who do not go out all that day. There are many who do not even dress on a Sunday, but eat and drink and sleep. Without appealing to any one in particular—for they include rich as well as poor—we may ask, at least, whether the Sunday indolence does not make the Monday a less agreeable day than Saturday? The extra feeding has a good deal to do with it, but the want of the usual excitement of business (the exercise of mind), and the usual bustling about (the exercise of the body), are not uninfluential. Day promenading is more beneficial than walking about in the night air. In wet weather, where out-door exercise is scarcely available, pacing the passage with the windows open is a good substitute.

Persons engaged in sedentary pursuits—the *litterateur*, the clerk, and professional man, should not fix themselves to their seats throughout the day; and he whose occupation binds him to his books, the student or the sage, if he can not well pace his closet, book in hand, should read aloud; independently of having what he reads indelibly impressed upon his mind, his lungs gain tone, and his respiration is rendered easier and stronger.

Exercise, while it gives energy to the mind and body, provokes the exhaustion to ensure repose.

What has not fresh air, or, as it is called when quitting the crowded city, change of air, effected! How many has it not snatched from the jaws of death! How many has it not saved from the tedious pilgrimage of sickness, and spared from desolate loneliness! The apparently consumptive, the melancholy hypochondriac, and the waning and harassed dyspeptic, has it restored to former lifefulness and joy. The first gush revives the expiring breath. Bed-ridden

invalids have been known to rise and walk the day following a removal into the country. Apart from local peculiarities and advantages, fresh air is in every instance useful.

THE PASSIONS.

The most powerful emotions are anger and despair. Scarcely a day passes but we hear of the fatal consequences of giving way to both. The intermediate feelings, the gradatory process from simple irascibility of temper to ungovernable fury, and from mental depression to the depths of imaginative misery, that we see exhibited among each other, swell out the list of human grievances that beset our travels through life. It is not to be expected that man can so tamely view aggressions, or so firmly withstand misfortunes, as to pass onwards unscathed by one or the other; but there is a certain amount of philosophy necessary to meet misfortunes, which, if we do not possess, we ought to endeavor to acquire, else, like the reed, we should be shaken by every wind.

It is the duty of all to fit their temper to their circumstances, and not suffer trifles to annoy them—to vex or depress them. The mind can be cultivated to withstand the shocks of the disasters common to the world, and also to resignation to those which can not be averted.

The leading passion in human nature is irritability of temper. It is the source of nearly all our our own discomfort and that of those around us; and yet how easy it is with a rational mind to subdue it. If it led to any good result, it might prove a healthy ebullition; but as it merely excites the brain, and to no good purpose, and seldom gains the end which reasoning might not accomplish, it is a waste of bitterness and even time, at the cost of oftentimes serious personal disturbance. Women have been thrown into hysterics, that have led to epilepsy and death, by indulgence in angry disputation; and men have sacrificed friendships, broken the peace of homes, and scattered desolation among their dependents and followers.

According to the teachings of some modern reformers, everything in these days depends upon organization. If we are organized to be murderers, the crime must follow, and he only is virtuous who is happily possessed abundantly of the moral faculties. The young "limb," the scold, the termagant, the violent and hasty man exclaims, "I can't help it;" and on viewing the destruction that may have been effected, cries out, "I don't care." This is a most fallacious notion.

Phrenologists, at the same time that they admit that organization influences our conduct, know full well, and insist upon it, that our conduct, or rather education, influences our organization, and that organization may be cultivated; that bumps, as they are styled, can be encouraged and depressed, and their contents called into action or subdued; and therefore, if phrenology means anything, it means that viciousness and virtue depend entirely upon cultivation, and that such folly ought to be helped and ought to be cared for. "Bring up a child in the way he should go, and when he is old he will not depart from it." But it is even possible to alter habits of a later growth; and as, in the regulation of health, man must "chalk out" his own conduct to secure it; so, in the control of his wayward feelings, he must bestow a little attention to the study how to do as much for the morbid excitement of passionate frenzy.

Even in a selfish point of view, irascibility of temper ought at all times to be checked. The flushed forehead, the blanched lips, the swelling throat, the fierceness of the eye, and the towering voice, displayed in an ordinary fit of anger, are pretty sufficient indications of the tumult within and the spirit without.

A calm, serene, and cheerful mind, may be secured by cultivation; even persons of a naturally fretful, peevish, irascible temperament, will be astonished to find how comparatively easy it is to control and regulate their humors, if they will but resolutely determine to bring them under domination.

Despair is but the nurtured offspring of gloom and depression: it is a growing thorn in the heart of man; it makes him "sink in lethargy before his time."

Melancholy, or mental nervousness, as it may be called, is generally the handmaid to the sick couch. Here the faint-hearted man, unlike his angry brother, rather weeps in his regret than gloats in his revenge; neither more nor less does he demand our sympathy. The two conditions are the saddest of suffering humanity. Like anger, it occasionally attains its climax, and it then may be called "human weakness,"—nay, "folly." A man may feel his sorrows like a man, but, to ante-date the quotation, he should also bear them like a man. Richelieu exclaimed to a hopeless adventurer, "Despair should not be found in a young man's vocabulary." Whatever the dilemma we may be in, our first effort should be directed to its removal. The more we fret, the further we are off. In nearly all nervous affections there is a strong tendency to depres-

sion of spirits; it is part of the malady, it may be as much the occasion of it as the consequence; and in the attempt to cure the disease, likewise, must our efforts be carried to the cause as well as to the symptoms. A morbid dullness is even soothing to some minds; and so easily are impressions caught up, that set but the train in motion, and the thought is established.

MORBID EXCITEMENT.

Nero fiddled when Rome was burning; kings have been checkmated on the board and their throne at the same moment; and such is the fascination of cards and dice, that fortunes are often risked on a "turn up." Once allow this sort of excitement to get the mastery, and health begins to ooze out at your fingers' ends.

Morbid excitement, or excitement to excess of any kind, and that especially indulged in by young men—no matter whether card-playing, pool, sing-song, boating, spreeing, or larking, or whatever else carries the mind beyond the soberness of propriety, is most hurtful; and those who prefer placid feelings, mental contentment, and good health, or who are seeking to gain these desiderata, must *avoid all kinds of morbid excitement.*

SUMMARY, AND PRACTICAL RULES.

When you find a want of vigor and activity of body or mind, or when you experience depression of spirits, morbid and gloomy imaginations, or perverted feelings, *try to discover the cause*, and whether it be not one dependent on your own acts.

If you are assured, on competent authority, that you have no organic disease, suspect bad condition of the blood,—to remedy which, look first to your *diet;* and as to *quantity*, remember that generally, during the period of growth, *deficiency* is to be feared; and, in adult life, *excess* is the thing to be guarded against. If your appetite is defective, inquire *why;* if your avocations are sedentary, see that you get exercise daily, and in the open air if possible. Cultivate (for it may be cultivated) quietness of mind, and freedom from care and passion,—both of which destroy the appetite. As to *quality* of your food, remember its twofold object is to produce *heat* and to repair *waste*, but also remember, that for *you*, what you can *well* digest is the only proper food.

If you *waste* much, either by muscular or mental exertion, you must repair it by a due proportion of nitrogenous or flesh-producing food;

and for those who work chiefly with the brain, the various kinds of pulse, as peas, beans, lentils, &c., are less suited than for those whose labor is chiefly *muscular*.

Consider your habit of body, and also to what disorders you have a tendency, either by hereditary or acquired disposition.

If you are disposed to emaciation, use abundance of farinaceous food, and that containing starch and sugar,—especially sound bread, and take the utmost care that it be sound.

If you are disposed to superfluous fat (obesity), take the diet just described, but very sparingly; and use more flesh-meat.

If you are disposed to gravel, and it is of the red form, be careful to use little meat and much exercise.

If to the white, or phosphatic kind, moderate exercise, a more liberal diet, and even wine, with tonics, steel, &c., may be required.

If you are prone to gout, a medium diet is best; but beware especially of fermentible aliments, and of badly-fermented liquors.

If your employment is laborious, peas, beans, cheese, close-bread, and fat flesh-meats are suitable; while mental pursuits and sedentary habits require rather lighter bread, but a spare use of cheese, peas, beans, and a moderate amount of flesh-meat.

When, from want of inclination, you can not take flesh-meat, or not so much as your waste requires, be careful to substitute those articles which come nearest to it in quality, as bread (not too light), flour pudding, cheese, peas, beans, cream, and the ordinary fruits and vegetables; but do not depend on starch food, as sago, arrow-root, tapioca, &c., &c., nor on gelatine or jellies of any kind. These may form an occasional addition to, but not the staple of the diet.

As to the times and seasons for taking food—

Avoid long fasting, excessive fatigue, and then taking a full meal in this state. If possible, time it so that, when the stomach and strength begin to require food, you may be able to take it with as little delay as possible.

Dismiss all anxious thought and care when you sit down to a meal; be thankful, and be in charity with all men, as you hope for good digestion. Eat very slowly, and masticate thoroughly; have recourse to the dentist, if needful, for the means of doing so.

Rest an hour after dinner, if possible; then take moderate exercise, and, so far as your pursuits will admit, make your chief exertion of body and mind to fall between your meals, leaving a short interval free for all business, both before and after each.

Three meals in the day are sufficient for an adult—the very weak or the diseased excepted.

As to the choice of particular places of abode in relation to certain predispositions to disease, the following rules may be given:—

All scrofulous or consumptive disorders requires pure dry air, but not necessarily hot. It is quite a mistake to suppose that hot climates are favorable to such invalids in all stages of disorder. To some they prove positively hurtful.

Perhaps for those scrofulous or consumptive persons who bear a high temperature well, it may afford the best-known remedy; while others have been found to bear, even with advantage, the bracing air and extreme cold of Minnesota or Wisconsin.

Neglect not the care of the skin. Use frequent warm baths, soap, friction with Russia duck towels, &c.

Use no hot baths except by medical advice, and cold only if you are robust.

Exercise the limbs as much as possible, in the open air when practicable; and use sufficient exercise, at least once a day, to produce sensible perspiration of the skin.

When out-of-door exercise is impracticable, do not omit in-door; not only gymnastics, but reading aloud, singing, music, especially stringed instruments.

Those who are in moderate health, ought to accustom themselves to the open air in almost all weathers.

Use warm clothing, but avoid as much as possible that which is impervious to perspiration.

As to temperature. Let your rooms be kept at a temperature not exceeding sixty-two degrees nor falling below fifty-four degrees.

When you pass from a warm room to the open air in very cold weather, get well heated before you expose yourself.

In passing from very cold air to the house, go first into the coolest part of the house, so as to avoid the sudden transition from cold to hot air, which is very hurtful.

There is no danger, but much benefit, from the application of cold water to the skin, when the latter is extremely hot; since this is just the condition in which cold affusion is useful, as in fevers.

To promote proper excretion, and to avoid constipation, observe the following:—

Let not your diet be too delicate or concentrated; bulk as well as nutrient elements being necessary.

Remember that constipation often depends on the first stage of digestion being imperfect; therefore eat only what you can thoroughly digest.

Do not use aperient medicines if you can possibly regulate the bowels without them. If they become needful, a few grains of rhubarb or minute quantities of castor-oil (a teaspoonful only) are to be preferred, especially for the aged, who should avoid saline medicines, or use them very sparingly, as they reduce heat.

As to the excretion of urine. If you find yourself growing fat and weak, and if also you require to pass urine very frequently, suspect disease of the kidneys and seek advice, and remember that this disease arises primarily from bad digestion or improper diet.

Never defer attention to the natural call to evacuate the urine, as danger often ensues from this cause.

Take care to keep the lungs in exercise by sufficient locomotion, by muscular exertion of some kind; and also take care that your clothing admit of the free action of the muscles of the trunk, by which respiration is carried on.

Be careful also to avoid all pressure which can obstruct the circulation of the blood, especially in *the neck* and in the lower limbs.

Learn a lesson from the trainer, for there is perhaps nothing so bad but that some good lesson may be derived from it; and it is a natural and useful inquiry, *by what means* does the *trainer* bring his pupil into a fit condition for such a contest as that which has of late attracted so much attention? The rules are these:—

1st, and most indispensable of all, is abstinence from strong drink, and from *all* sensual indulgences.

2nd. Continued waste of the old particles of the body, muscular and nervous especially, and of the blood itself, by *strong exercise;* this waste being supplied by

3rd. Plain *solid* diet of brown meats, especially beef and mutton, good bread, &c., a very *sparing* use only of any *liquid* aliment being allowed.

4th. Active frictions of the skin.

5th. Abundant and pure air, with early bed hours.

We see, therefore, that training is nothing more than *the application of the laws of health* (which throughout this work we have been inculcating) to *their fullest extent.* The only difference which *need* to exist between our ordinary mode of life and a period or *course of*

training is this, that in the latter we make health the primary object, and all pursuits of pleasure and business are postponed. This, it may be said, we can not do in ordinary life. True, we can not; but, for the most part, the self-denial, industry, and wholesome diet which are the chief features of training, will be no less conducive to success in business and the enjoyment of real pleasure, than they are to the success of the pugilist, pedestrian, or the victor in a boat-race.

To preserve in health the noblest part of man—the brain and nervous system—observe the following:—

Remember that all thought, all sensation, waste the nervous substance. Do not waste more than your digestive powers can supply.

In pursuing either study or business requiring much thought, take care to *vary* your pursuits as much as possible, that one thing may relieve another.

If possible, choose the early morning instead of the late night.

If you read and write much, have a *standing* desk; do not sit always, and avoid a bent posture.

Do not *habitually* think or read in the recumbent posture; this is a caution of great importance, as determination to the head is much governed by position; and on the other hand, in some particular conditions, and on some particular occasions, the recumbent posture is an advantage.

Rossini, it is said, availed himself of it for his greatest musical creations, and George Stephenson used to go to bed for about three days when he had any very difficult engineering problem to solve.

Remember how much the *passions* waste the nervous powers.

Do two things with regard to them.

1. Avoid the spur in any form.

2. Use the rein habitually, and avail yourself of the faculty inherent in us, of the concentration of thought in any desired direction by a strong *effort of the will.*

In all lawful things, the question of excess is entirely *relative;* what is moderation for one, may be *excess* for another. Observe *results* faithfully, and the course will be plain.

Finally, as the very purpose for which we value health, and even life, is *activity of the body and mind*, so is the well-directed employment of both the essential condition for the preservation of health, for the prolongation of life, and what is more, for rendering this life happy, useful, and preparatory to a higher.

BATHS—WHEN AND HOW TO TAKE THEM.

The Warm Bath.

The virtues of the warm bath can not be extolled too highly. Apart from its cleanly properties, its moral virtues, and its salutary tendency, it has a strong inducement in the personal comfort which it affords. Such a state of things as half freezings, and similar sufferings, are highly dangerous; and a cold caught one day often sees the victim coffined in a week. A hot bath taken at a fitting moment arrests the threatened invasion, dissolves the frigid members, reanimates nose, fingers, and toes; sends the blood merrily on to every extremity, where ten minutes before it was a stranger, and composes the body in a state of thankful and grateful ease, and sends death about his business. A warm bath, aptly taken, has, in hundreds of instances, and thousands too, averted and cured illnesses that bitter experience tells us have proved fatal for want of one. A cold is the most accessible of all complaints in this variable climate; neglected, it leads to the most fatal. A warm bath is the readiest, cheapest, quickest, best, and most certain cure. Medical men are nearly unanimous in asserting that the warm bath is very conducive to health. That it equalizes the circulation of the blood, renders the skin supple and moist, promotes free perspiration, and relieves the body from a layer of thick, obstructive accumulation of scurf, and oleaginous surfacial deposit, and so proves salutary, giving thereby an impetus to absorption and secretions. A man in health, to keep himself so, should take a warm bath once a week throughout his life; certainly a fortnight should not pass without one.

Warm bathing also acts beneficially on the kidneys and urinary organs; it helps the bowels and stomach and liver, giving new life to each, the action promotes digestion, and, contrary to the popular fear of a warm bath weakening, it in reality strengthens the system; and furthermore, in opposition likewise to the apprehension that a warm bath is dangerous, as being liable to give cold afterwards, it actually fortifies you against one. As a matter of health and duty, the bath is imperative; as one of ease and comfort and enjoyment, and lastly of cleanliness, incomparable.

The usual temperature of the warm bath is ninety-eight degrees; but, according to the object in view, it can be modified and borne at the pleasure of the bather; if taken for mere refreshment and cleanliness, the above heat will prove very agreeable and suitable for the

purpose; if suffering from a cold or other indisposition, and perspiration be desirable, one hundred degrees will be found effective, and ten minutes are quite long enough to remain in it; if the stay be much protracted, exhaustion follows, and the effect is hurtful. The French people accustom themselves to pass a full hour in the warm bath; but the practice is relaxing, and indeed enervating, and an American would soon find it so. The morning is the most favorable for invalids, because the body is fresh and able to encounter any little extra fatigue; but the bath is equally serviceable at all periods of the day—morning, noon, or evening. It may be taken safely in the "bitterest" and coldest weather. Foggy and damp and wet days are the least favorable for the indulgence. In the summer, the bath is most essential; for the skin having double duty to perform, it urgently requires to be kept cleanly, lest any obstruction to the prespiration should ensue. If the bath be wanted for a specific purpose, and the illness be one of uncertainty or beyond the comprehension of the invalid, a medical opinion had better be obtained.

Vapor, Sulphur, Fumigating, and Other Baths.

Vapor-bathing is an immense luxury, and a vastly powerful remedial agent. Its story is soon told. The bather is closeted in a chamber like a tent, which is furnished with fragrant steam, that quickly surrounds the body, and soon causes great but bearable warmth that ends in profuse perspiration. The feelings on the occasion are most delightful: a vapor-bath has been fancifully compared to Mahomet's "seventh heaven."

The various baths of this kind are to suit special local diseases and the constitutions of particular individuals; but they had all better (the baths) be taken (more or less) under medical surveillance. First and foremost it may be stated, that few skin complaints yield without the use of the bath. Some of the most inveterate kinds admit of no other remedy. All chronic painful affections, such as exist in the bones, joints especially, the broad muscles of the back, the thick muscles of the buttocks, thighs, constituting lumbago, rheumatism, neuralgia, &c., all more or less modifications of the same malady, are ameliorated and cured by medical bathing. The vapor-bath is an almost infallible cure for a cold. This and the warm bath may honestly be called the hot-water cure. It is greatly useful in chronic affections of the kidneys, in nervous affections of

various parts of the body—tic-doloureux especially—and also as a great renovator of health, inducing a healthful action upon the circulation, provoking the proper function of the liver and digestive organs, the skin, and all the various secretions. Steam-bathing constitutes a system in itself, and is worthy of every reliance and attention on the part of the profession and the public; but theory will help very little either party.

The Cold Bath.

"The cold-water cure" has made a great stir in the world; and it is ridiculous to suppose, notwithstanding the prejudices against it among certain medical men, and others who know nothing about it, that it is a mere chimera, when thousands of people live to tell of the immense service it has rendered them. No matter whether the cure has been effected by temperate living and by country exercise, certain it is, invalids who have employed cold bathing in conjunction, as far as they can judge by their own feelings, and as far as observers can declare from personal knowledge—certain it is, that cold bathing, either local or general, is a highly important remedy, and that by its means the parties in question have got well. Physic, without the observance of careful living, exercise, and fresh air, and other adjuncts, would do very little alone; but the credit is usually given to the medicine, and why should not the bath be as fairly treated? The cold shower-bath—the douche-bath—where a large stream of cold water is forcibly directed to particular parts of the body, have severally their patrons. The sitz-bath, similar to the common hip-bath, but not so deep, is really a great agent in diseases of the pelvic viscera, or organs contained in the lower part of the abdomen, and in nervous affections, pains, and debility of the neighboring structures, female complaints, &c. The cold-plunge bath, although taken, perhaps, more for pastime than health, yields both. Mark the color and glow of the bather after a jump in, a short swim, and a quick dressing—consult his feelings the remainder of the day, and he will tell you the bath strengthens him, cheers his spirits, gives him a freshness of feeling unattainable by any other means; that, in fact, he longs for the next morning to give him his next immersion. Why do people congregate by the seaside and there venture among the sportive waves, allowing the foaming sea to engulf them, were they not convinced they derived benefit from the practice? Young and

old, after a sojourn, even though it be brief, at the coast, return home renovated and replenished with healthful and happy looks, and the majority will speak with rapture of the benefits of sea-bathing. Indeed, the fact is incontrovertible. Of course, cold-bathing, in all its forms, requires some little prudence in its indulgence. It is not wise to remain in too long, nor can it be done with impunity any more than in the warm bath (two errors of frequent happening), and therefore certain rules should be observed as a guidance; for instance, except an immediate reaction follows the immersion, the shock of the bath leaves behind a chill which may end in a severe cold, or establish rheumatism, or set up fever or general irritability, and it may thereby weaken instead of strengthen the bather. It is therefore prudent to jump in, move about for a couple of minutes, come out and dress, and then walk about to keep up the excitement. The best time for bathing is the morning, either before or after breakfast—before, if strong enough, or an hour after breakfast; if the former time prove not so salutary, cold bathing tells its effects very speedily; if it disagree, the sensations will bespeak as much; if, on the contrary, the desire to repeat it will predominate. The bath should never be taken on a full stomach; and it is unwise to compel young people to bathe against their inclinations. Diffidence may be overcome; but dread, if defied, may produce illness. Bathers must, in all instances, be guided by their feelings when and how often they may take the baths; but they may safely venture every or every other morning. The cold shower-bath may be taken every morning all the year round; and some people take the same evenings also, and with benefit. The temperature (for that varies, owing to the weather, situation, &c.) must be studied. Some weak systems can not command a wholesome and prompt reaction from a *very* cold bath, and therefore the bath should be changed for a tepid; but the ordinary cold bath in the summer season, as at the sea, is about the most agreeable and safe.

In conclusion, cold water, whether in tub, stream, or sea, is one of those beneficent gifts nature has bestowed on man for his own use, and, if employed with careful consideration, affords the end in view —universal good—and can not but elicit from every thankful mind the homage and gratitude due to the great and benevolent author of its source.

PART VI.

Common Questions Answered.

Why do many persons experience uneasiness and pain after drinking freely of milk?

Because the milk, after it reaches the stomach, is changed by the gastric juice into curdy lumps, which, like lumpy cheese in the stomach, is difficult of digestion. Milk with bread crumbed into it, is prevented from being changed into lumps so large as to be slow of digestion. A little lime-water added to milk prevents its being curdled in the stomach. Milk curdled before being eaten is a very nutritious and easily digested article of diet.

India-rubber overshoes worn in Winter — Why do they cause the feet to be excessively cold?

Because rubber is an excellent conductor of cold and heat, conducting cold almost instantly to the feet, at the same time conducting the heat of the feet away from the feet. It prevents the escape of the perspiration of the feet and they quickly become damp, even in the warmest room. The best overshoes are known as the Arctic, with soles of rubber and uppers of heavy cloth, lined with woollen.

Is it not a fact that bright moonlight affects a sleeping person injuriously?

It is. Persons of a peculiar susceptible nervous temperament asleep in a dark room will, as soon as the bright rays of a full moon fall upon them, presently get up and walk about in a somnambulic state. This is termed "moonstruck." But few persons can sleep with the light of the moon upon them without experiencing its effects. If they are not awakened, they become uneasy and turn

restlessly from side to side. Many dogs, fastened out in the bright moonlight, will sit on their haunches, gaze at the beautiful orb, and howl most dismally. Foreigners in Eastern countries travelling at night to escape the torrid heat of the sun, are obliged to use umbrellas to protect themselves from the injurious effects on the brain of the powerful rays of the moon.

Moral.—Before retiring for the night see that your room is protected from moonlight.

Why are white or light-colored clothes cooler in Summer, and black or brown warmer in Winter?

Because white clothing throws off heat, while black absorbs it. Grapes, and other fruits, placed against a dark wall, will ripen earlier than if against light-colored walls, because, for the same reason, they are warmer.

Why, even in the hottest Summer weather, do firemen, and others exposed to great heat, wear heavy flannel shirts?

Woollen, being a non-conductor, protects the body from the direct rays of heat, and is a protection against sudden changes of temperature. The high non-conducting power of the woollens is shown by the practice of preserving ice in hot weather by simply wrapping it in flannel. Thus our winter apparel is made of woollen fabrics, which prevent the escape of the heat from the body.

Why is night air unwholesome?

Because the decomposition of vegetable matter yields products which are detrimental to health, take place everywhere upon the surface of the ground, though lifted and dispersed during the day are condensed and confined so close to the earth at night as to affect the breathing stratum of the air. The importance of having the sleeping apartments on the upper floors is thus apparent.

What classes of Food are Constipating and what Laxative?

Some aliments have a relaxing effect, and others are of a binding nature, or tend to constipation, and they differ much in degrees in which these effects are produced. These results are not, however, due to the specific active effects produced upon the bowels; for some foods, as meats, eggs, milk, are considered to be binding because they are completely absorbed and leave no residue to excite the intestines

to action. Those aliments are best adapted to relieve a costive habit of body which leave much undigested refuse to stimulate the intestines to free action.

FOOD OF A CONSTIPATING TENDENCY.

Bread and cakes from fine wheaten flour, rice, beans, peas, cheese, milk, meats, eggs, tea, alcoholic drinks.

FOOD OF A LAXATIVE TENDENCY.

Wheaten bread and cakes from bolted flour, rye bread, corn bread, raw sugar (from the molasses it contains), fruits, raw and cooked, and generally substances abounding in ligneous matter, as skins, cores, husks, bran, &c.

Why is the advice so often repeated, especially to young people—to eat slowly, masticate the food well?

Because three pairs of glands in the mouth pour forth a fluid somewhat similar to the gastric juice. It moistens the food in the mouth, so that it may assume the proper pastry condition. It begins the operation of digestion. It converts sugar into lactic acid, and starch. (Chew a little pure starch for a short time and it will become sweet; a portion of it has been changed to sugar). The importance of slowly and thoroughly masticating our food is thus apparent.

"Good livers"—those who enjoy eating—are always deliberate at their meals; they masticate slowly, and are thus enabled to enjoy the pleasures of taste in perfection. The food goes into the stomach well prepared for the action of the gastric juice—digestion is easy and perfect, and our "good liver" is plump, robust, and jolly.

Many persons chew their food for a moment and then "wash it down" with a copious swallow of tea, coffee, or whatever their usual table drink may be. This practice is certain to cause dyspepsia.

Note.—Cheese as ordinarily chewed and swallowed in small lumps is difficult of digestion, and often causes pain. It can be eaten with impunity if well masticated and allowed to dissolve in the mouth before being swallowed.

Why does not the stomach digest itself?

Because it is protected during the process by a sheath of mucus, and the continuous formation of protecting cells, called *epithelium.*

Why is it unwholesome to breathe in one's face?

Because the breath is laden with noxious carbonic acid from the

lungs; carbonic acid is so poisonous that breathed pure it kills instantly. We breathe oxygen and return to the atmosphere carbonic acid—each adult exhaling about one hundred and forty gallons daily. This shows the importance of keeping rooms well ventilated.

Carbonic acid largely diluted with air, as in crowded public halls with insufficient ventilation, acts as a narcotic poison; many of the audience suffer from headache or stupor, while others faint away, —not "because it was so hot," but from breathing carbonic acid with which the room was being filled from the lungs of the crowd.

Why are plants in sleeping-rooms unhealthy?

Because they give forth the poisonous carbonic acid. Plants are "healthy" during the day, when they absorb carbonic acid, and return life-giving oxygen.

Why is the popular German beverage called Lager-beer?

Lager is from *lagen*, to lag,—the beer being stored in vaults for several months before consumption.

Are ales, strong beers, &c., nutritious?—Do they fatten?

No. They stimulate temporarily, but have no strength-giving properties whatever. Used freely, the alcohol they contain prevents certain necessary wastes of the system, resulting, with many persons in that puffy condition known as bloat—unnatural and unhealthy. It is a well-known fact how difficult it is to heal cuts and wounds on the persons of habitual beer-drinkers.

What is the meaning of dry wines?

The sweetness of wines is due to undecomposed grape-sugar, the ferment being exhausted before all the sugar is changed. When the sugar is wholly decomposed, the wines are called "dry," as claret, sherry, &c.

Are pies and cakes unwholesome food?

Not necessarily so. A pie with light delicate crust, filled with fruit sauce spiced so as to be scarcely susceptible, is one of the most nutritious and easily digested articles of food. It is when the crusts are heavy and soggy, and the fillings bitter with spices, that pies become a trouble to those with delicate stomachs. Mince pies as commonly made are an abomination under all circumstances. It is one of the

most difficult articles to digest that can be eaten. It can be "tasted" thirty hours after it should have passed from the stomach, and by persons of sound digestive powers.

Mince pies are a common article of diet in New-England, during the winter season, and a leaner or more dyspetic race can not be found than the New-England people.

Light plain cake is easily digested and very nutritious. Arctic explorers now take with them a supply of rich fruit-cake, as it has been found that it possesses greater strength and heat producing properties than any other article of food.

Why does eating too much candy, &c., spoil children's teeth?

By injuring the digestive powers. Dyspeptics have decaying teeth to an uncommon extent. Children have a natural craving for sugar in whatever form, and if not given to them injudiciously is an important element of growth and strength.

Why are young children sometimes paralyzed from sitting on marble or stone steps in Summer?

From the shock and injury to the nerves resulting from the contact of the child with the marble, which, an excellent reflector of heat, is quite cold compared with the temperature of the child.

Why do we feel depressed in damp, moist weather?

When the weather is cool and clear and bracing, the atmosphere is full of electricity; when it is sultry and moist and without sunshine, it holds but a small amount of electricity, comparatively speaking, and we have to give up what little we have, moisture being a good conductor; thus, in giving up instead of receiving more, as we would from the cool, pure air, the change is too great, and the whole man languishes.

Why do many men become bald, and women not?

When the scalp is debilitated and relaxed from any cause, as in fevers, the wearing of tight, unventilated hats, long-continued headaches, producing heat of the scalp, &c., the hair falls out. If the tight hats are worn for years, and the headaches are severe and frequent, permanent loss of hair is the result, and this is called baldness.

Baldness is confined almost exclusively to men, and to those whose business or profession require a constant and consecutive use of the brain—thinking powers—as large merchants, manufacturers, lawyers, doctors, editors, clergymen, professors, judges, statesmen, &c.

Observation will show how almost universal baldness is amongst the middle-aged of this class of workers, and the cause is simple. Earnest thinking causes an immediate extra flow of blood to the brain, increasing the temperature proportionally; thus the scalp of brain-workers is subjected to a greater than the average amount of scalp-heat. It gradually becomes debilitated, the hair falls, and baldness is the result.

Women wear no tightly-fitting hats; their position in life requires of them no undue amount of thinking, and the brain remains at its natural temperature (excepting, of course, during times of headache), and so baldness among women is comparatively rare.

Why do intelligent physicians frequently recommend their patients to sleep on beds standing North and South?

That the current of magnetism constantly passing around the earth from South to North may pass through the body in a lengthwise direction. It has been found that a class of nervous invalids lying with their heads East and West will become restless and uneasy from no apparent cause, and their sleep will be unrefreshing, and of short duration. Changing the position so that the head shall be towards the North or South, and the patient becomes quiet and restful, and the sleep sound and refreshing.

Is it injurious to health to drink water at meals?

No, not if taken in reasonable quantities. It has been taught that the effect of swallowing much liquid during meals is to lower the digestive power by debilitating and weakening the gastric juice. This is, however, denied by high authority. The eminent Dr. Chambers, of London, asserts that "a moderate meal is certainly easier digested when diluents are taken than without it." Again he remarks, "aqueous fluids in large quantities during meals, burden the stomach with an extra bulk of matter, and therefore often cause pain and discomfort, but that they retard digestion I do not believe; indeed, among the sufferers from gastric derangements of all kinds, cases frequently occur of those who can not digest at all without a much more fluid diet than is usual among healthy persons."

Is out-of-door exercise before breakfast healthful?

No; on the contrary, from the very nature of things it is hurtful, especially to persons of poor health, although the very vigorous may practice it with impunity. In winter the body is easily chilled through and through, unless the stomach has been fortified with a good warm breakfast; and in warm weather, miasmatic and malarious gases and emanations speedily act upon the empty and weak stomach in a way to vitiate the circulation and induce fever and ague, diarrhœa, and dysentery. Entire families, who have arranged to eat breakfast before leaving the house, and to take supper before sundown, have had a complete exemption from fever and ague, while the whole community around them was suffering from it, from having neglected these precautions.

Why is fresh bread unwholesome?

Because of its indigestibility. New bread contains much moisture; and, on being chewed is formed into small pasty lumps, that remain in the stomach for hours before the gastric juice can dissolve and dispose of them.

The digestibility of preparations of flour depends first and mainly upon their condition as respects lightness or heaviness. The porous and spongy state, as in good stale (one day old) bread, is most favorable to the penetration and action of the digestive juices, while glutinous masses in a dense compact condition, are the torment of weak stomachs, requiring the strongest digestive powers for their reduction. It is very difficult to preserve the loose and open texture of dough in boiling, and hence pastry, dumplings, &c., are very rarely light or digestible.

Our best puddings are made of rice, sago, or Indian meal, baked. Boiled Indian puddings are not very difficult of digestion, and are far preferable to those of wheat. Batter puddings are not so easily digested, and suet pudding is to be considered the most mischievous to weak stomachs in the whole catalogue.

Why are late and hearty suppers injurious?

Because active digestion and sleep mutually disturb each other, as at night exhalation of carbonic acid is slowest, and tissue charges most retarded; the over-loaded blood is not relieved, and invades the repose of the brain, producing heavy disordered dreams, followed by headache and ill-humor in the morning.

PERSONAL BEAUTY.

THE TOILET:

New, Simple, and Efficient Preparations.

THE HAIR.

A thick, handsome head of hair is generally acknowledged to be a good thing to have. Many do possess it, and many others might, but from sheer neglect in the care of this "divine ornament." The scalp should be kept clean and free from scurf, dandruff, and the dirty accumulations caused by the use of oily hair preparations, &c. Everybody knows this, and yet how generally neglected is the care of the hair and scalp.

HAIR WASH.

An unequalled hair wash for cleansing the scalp and hair from all impurities is a tablespoonful of hartshorn in a pint of water. Rub thoroughly into the hair and over the scalp, and then wash the head with clear water.

The use of this wash once or twice a week, renders the hair and beard soft and glossy, and greatly promotes its growth.

DANDRUFF.—A CURE.

After the scalp and hair have been purified of dirt and dandruff by use of the above wash, future annoyance from dandruff can be prevented by dampening the scalp three or four times per week (oftener if necessary) with sulphur-water, made by putting one-half ounce of flour of sulphur into a pint of water, shaking occasionally for two days, and then pouring off into a clean bottle. This "cure for dandruff" is new and of great value. The neglect of keeping the scalp free from those scaly particles known as dandruff shows a lack of personal cleanliness not particularly commendable. A lady with her hair powdered with scurf is not particularly angelic; and a gentleman with his coat-collar whitened with dandruff is surely not a fascinating object.

HAIR PREPARATIONS.

As the hair of but few persons is sufficiently oily of itself to be of desirable appearance, and to keep in a proper position, the use of various hair preparations is almost universal. A fine article is made as follows:—

Strong Alcohol, ... 1 pint.
Castor Oil, ... 2 ounces.
Tincture of Spanish Flies, ... 2 drachms.
Oils Bergamot and Lavender, of each.....10 drops.

Nothing superior to the above was ever made. It is not too greasy to be objectionable. It renders the hair glossy and silken, and is sufficiently stimulating to prevent the hair from falling out, and often induces an unusually fine growth, and not the least, it is cheap, and quickly made.

GLYCERINE WASHES.

Glycerine washes, for the hair, are objectionable. They render the hair disagreeably sticky, causing it to "catch dirt" to such an extent that the scalp must be washed every few days, in order to keep it in a wholesome condition.

POMATUMS.

Pomatums are liable to nearly the same objections. Besides, they are almost without exception made of lard, which is liable to become rancid and acrid, thus irritating the scalp, and not unfrequently causing sores.

GREY HAIR.—HAIR-DYES.

From various causes, generally unknown, the hair turns prematurely grey. Nothing will restore it to its original natural color, but it can be artificially colored so as to be quite of satisfactory appearance.

The quantity of hair-dye used in this country almost exceeds belief. The very best, because producing an almost perfectly natural color, and at one time the most popular, was the well-known sulphur and sugar of lead dye. In 1866 it was sold under more than four hundred and sixty names, by actual computation. As one dollar was charged per bottle, and as the entire cost was about five and one-half cents per bottle, including the bottle and wrapper, almost every druggist and barber in the country put up the stuff under some attractive title, and proclaimed its virtues in the most positive manner. It was always "not a dye," and it would "restore the hair to its original color." Rich firms advertised it enormously, and the result was that for a number of years it seemed as if every third person was using the abominable dye. The odor it gave to the person using it was truly disgusting. The sulphur and lead were quickly absorbed through the pores of the scalp and the head, and the entire body became stenchful indeed from the fœtid, sulphur-laden perspiration.

Presently physicians in every part of the country found that cases of paralysis (formerly an uncommon disease) were becoming alarmingly frequent, and on due investigation it was found that the cause was from the use of the lead and sulphur hair-dye.

Dr. G. H. Taylor, who treats a large number of paralytics every year, at his well-known "Movement-Cure Institute" in New York, found this class of patients increasing to an unusual extent. Investigation showed that in many recent cases the cause was from the use of the hair-dye in question. An eyelid or one side of the face or neck is usually first paralyzed, then an arm, finally an entire side,—generally the left. In 1869 a lady was taken to Dr. Taylor for consultation who had used the hair-dye so long and so freely, that her grey hairs had become jet black. The odor from her person was sickening. She was entirely paralyzed—could only move her head, and speak. She died after lingering a few weeks in this condition, at her home in Brooklyn, N. Y.

A year or two since an editor in a western city died from the effects of this poisonous dye. The newspaper immediately made a hue and cry; chemists analyzed and warned; doctors cautioned their patients; the result has been that the use of the preparation has decreased largely. Still it is extensively used, and it is to save many from possible disease and death that we have given so much space to the notice of this most dangerous article.

"But I am not old, and my hair is turning grey,—what shall I do?" Well, if you *will* color your hair, use only such dyes as are known to be harmless—which are the "silver dyes," almost the only kind in the market.

The following simple "hair stain" has no superior. Put into a perfectly clean bottle:—

Nitrate of Silver,	75 grains.
Ammonia,	1 ounce.
Alcohol,	3 ounces.
Water,	9 ounces.

Keep the bottle well corked and in a dark place. The hair should be well cleaned with soap and warm water and then wiped dry, before each application. The stain is used by combing the hair thoroughly with a fine comb dipped in the preparation; no washing is required after the operation. The first application gives a reddish-brown color. The second a brown, and the third a black color. After each application expose the head to the sunlight for

fifteen or twenty minutes, if convenient, then oil and keep well oiled.

Gentlemen will find this a most satisfactory article for obliterating white hairs among their whiskers, and for "touching up" the beard or moustache to any shade desired.

To give "hair-dye receipts" here we think would be superfluous, as numbers of them can be found in any of the one or more "receipt books" that almost every family possesses.

CURLING THE HAIR.

Preparations are being continually advertised that are claimed will cause the straightest, stiffest hair to curl in wavy, massive ringlets. A genuine swindle. Nothing but mechanical means—the curling-iron, &c., will cause the hair to curl, or crimp, in the slightest degree.

The inane belief of a certain class of young persons, that the hair can be curled by the use of "curling fluids," &c., was recently rather expensively illustrated. A western sharper, fully alive to the weakness of young folks on the subject of curly hair, advertised in several papers of large circulation, a "magnetic curling-comb," warranted to cause the stiffest hair to curl beautifully. In a short time this genius received over thirteen thousand orders at one dollar each—the price of the comb. A common ten cent horn comb, with a bit of copper wire twisted about it, was sent at first, but presently nothing whatever.

Hair artificially curled is not becoming, while the twisting process around the wood or iron breaks the fibres of the hair and seriously injures it.

BANDOLINES.

Bandolines for the hair, are preparations entirely free from grease for keeping the hair in place, giving it a glossy appearance, &c. One of the best, and most simple, is made by pouring a teacup of boiling water, on ten or fifteen quince-seeds; strain, pour into a bottle, and add five drops of the oil of cloves or cinnamon.

TWO HAIR-BRUSHES.

Every person should be provided with two hair-brushes—an ordinary brush of good stiff hair, the other a friction or shampoo brush of stiff, black, uneven hair. Before dressing the hair in the morning, the scalp should be thoroughly "polished" with the shampoo-brush. Nothing gives such tone and vigor to the scalp, and prevents a tendency to fall out. It is an excellent sanitary operation in other respects. A person who of a morning gets up drowsy and unrefreshed,

after giving his scalp a brisk rubbing with the stiff brush, will experience a surprising change in his feelings for the better. A brisk friction of the scalp in a like manner will often cure headache.

BALDNESS.

Baldness, unless caused by fever or a similar cause, is generally incurable. One of the most successful remedies ever used, and we believe now published for the first time, is prepared as follows:—

Glycerine,	4 ounces.
Tannin,	1 drachm.
Tincture of Cantharides,	2 drachms.
Oil of Capsicum,	10 drops.

Apply to the bald spots morning and evening.

CHARACTER AS INDICATED BY THE HAIR.

Stiff, straight and abundant hair and beard are combined with a character which is straightforward, unyielding, strong, and rather bluff.

Fine hair and dark skin, show purity, goodness, and strong mind.

Black hair, a dark skin, and bilious temperament are usually found together. There is strength of character and sensuality.

Fine brown hair indicates exquisite sensibility, with strong will for what is good and right, if not perverted.

If the hair is coarse, black, and sticks up, there is not much talking, and the person is apt to be stubborn, sour, and harsh.

White hair, as a general rule, indicates a good, easy, lazy fellow. There is animosity in coarse red hair, with unusual firmness of purpose and strength of character. Hasty, impetuous, rash people, have curly and crispy hair. Red hair indicates a fiery temperament, passion, and devotion. Auburn hair, which is hair of a golden hue, having a yellowish tinge, with a florid face, gives purity, intensity, and great capacity for enjoyment and suffering. Wavy hair is pliable, yeilding, accommodating. The dark-haired races —the Spaniard, the Malay, the Mexican, the Indian, and the Negro, have physical strength, endurance, robustness in body. The light-haired races are the thinkers of the world, the poets, and the artists. Dark-brown hair combines the two, and is the most desirable.

THE SKIN, COMPLEXION, &c.

PIMPLES, FLESH-WORMS, OR "BLACK-HEADS."

The skin is a marvellous piece of lace-work, through the interstices or pores of which there is constantly escaping insensible perspiration and an oily secretion.

In a torpid condition of the skin there appears on the face, nose, and lower part of the forehead of many persons, what are called "black heads," "flesh worms," &c.,—often in great numbers, and causing an exceedingly disagreeable appearance. When the skin is pressed with the finger-nails they come out in vermicular form, having a black point or head, which gives rise to the name grubs, or flesh-worms, which they are, being real, living worms, which has been ascertained by microscopical examination.

They can generally be permanently removed by pressing them out with the finger-nails, and then bathing the parts with mild salt water. The skin should receive gentle friction daily with a coarse towel.

PIMPLES, RED AND MATTERATED.

If these are the result of an inactive liver, disordered digestion, or constipation, proper means must be employed to remove these ailments. Nothing will accomplish this more effectually and harmlessly than the use of the following pills:—

Strychnia,	1 grain.
Quinine,	1 scruple.
Leptandrin,	1 drachm.
Hydrastin,	15 grains.

Make into thirty pills, one to be taken immediately after breakfast, daily.

Pimples are generally the result of an inactive and unhealthy condition of the skin. A cure is generally accomplished by the use of the following:—

Corrosive Sublimate,	8 grains.
Muriate of Ammonia,	30 grains.
Water,	1 gill.

Bathe the pimples twice daily with this wash, using a bit of soft cotton cloth. Carbolic soap or pine-tar soap, to be bought in almost any drug store, dipped in water and rubbed over the pimply portion of the face, usually proves an effectual cure.

FRECKLES, BROWN SPOTS, MOTH SPOTS.

A peculiar chemical combination of iron and oxygen in the blood of many persons produces that appearance of the skin known as freckles, moth-patches, brown spots, &c. It is no question of health —those most freckled being generally blessed with most vigorous health. Those with very light or red hair (which is caused by red-colored oil, more strongly impregnated with iron than others), are most liable to freckles, &c.

The proper means of removing freckles and moth-patches is in the use of those chemicals which will dissolve and dissipate the existing combination situated in the second or middle membrane of the skin. As those with freckly faces have very naturally an intense desire for a clear skin, it gives us pleasure to be able to give here a new and positive cure for freckles, &c.

Sulpho-Carbolate of Zinc,	2 parts.
Glycerine,	25 parts.
Rose-Water,	25 parts.
Alcohol,	5 parts.

Apply twice daily, and let remain from one-half to one hour. Then wash with cold water.

To improve the complexion—

Corrosive Sublimate,	10 grains.
Oxide of Zinc,	½ drachm.
Muriate of Ammonia,	½ drachm.
Soft Water,	½ pint.

Use a piece of soft cotton cloth, and apply once or twice daily, slightly moistening the skin. The above has been extensively used for the removal of freckles, and other discolorations of the skin. A simple and excellent cosmetic for softening, whitening, and beautifying the complexion and hands, is made by mixing four parts of the yellow of an egg and five parts of glycerine, and rubbing them well together with a pestle. Apply to the face on going to bed. Rub well into the hands after each washing. It will keep for years, and is an admirable preparation for all bruises of the skin.

The use of paints and powders, however harmless they may be of themselves—as powdered starch—clogs the pores of the skin, and it becomes rough, sallow, and wrinkled, and often pimply; and a painted or powdered woman is such an unlovely object!

THE TEETH.

Probably less attention is given to the care of the teeth than to any other part of the body. Yet the teeth are the first importance! But comparatively few rinse the mouth regularly after eating, or use a tooth-pick habitually. And food clogged between the teeth is such a disgusting sight! It ferments—rots, giving the breath a bad smell, and causing the teeth to decay.

Besides the use of a tooth-pick, and rinsing the mouth after eating, the teeth should be thoroughly scrubbed with a good stiff tooth-brush at least once a day,—on retiring for the night is the best time, using

cold water. The teeth of many persons can not be kept clean and white without the use of a powder. The following is good, cheap, and safe:—

Prepared Chalk,	4 ounces.
Orris-Root (powdered),	2 ounces.
Green Myrrh (powdered),	¼ ounce.
Oil of Cinnamon,	20 drops.

Keep in a corked bottle.

Charcoal irritates the gums, and no preparation containing it should be used. Soap and soap preparations give the teeth a yellowish appearance, and hence are decidedly objectionable.

ILL-SMELLING BREATH.

If caused by filthy teeth or a decaying tooth, the remedy is plainly to clean the teeth, and to have the offending tooth filled or taken out.

If the cause is from a disordered stomach, of course the breath will be offensive till the digestion becomes good again, by due attention to diet, and proper medication.

But the breath of many persons is ill-smelling from no apparent cause. Such persons can render the breath sweet temporarily at any time by chewing a kernel of roasted coffee.

WASH YOUR FEET!

In cities, facilities for taking a hot bath are so many and convenient that every respectable person feels himself bemeaned if he does not occasionally give himself a good scrubbing with soap, brush, and hot water. But in villages and the country proper, things are different. To attempt a bathe in a washtub placed in the barn or back kitchen can not be considered particularly convenient; and the result is bathing in the country is not the general practice. One consequence is a good many feet that give forth exceedingly bad smells!

The pores of the soles of the feet are much larger than on any other parts of the body, and they pour out a large amount of perspiration, which condenses, mixes with dust and dirt, and forms that hard scaly crust that almost every person has noticed at some time on the soles of their feet. Wearing tight boots or shoes the perspiration is confined—there is no "ventilation," and the result is about the feet of many persons, especially men, a most rottensome smell. Soak the feet ten or fifteen minutes, at least once a week, in a pail of hot water, well soaped, and then giving them a thorough scraping with a stiff-bladed knife. This will prevent all danger of

bad smells from the feet, and add much to your feeling of personal comfort, at the same time lessening the liability of taking cold. Those who keep their feet scrupulously clean are much less liable to cold feet—have warmer feet in winter—than those who do not.

Item.—The feet can be kept comfortably warm on an excessively cold day by wrapping a piece of newspaper about the feet over the stockings, and then drawing on the boots.

VALUABLE MISCELLANEOUS INFORMATION.

CONSUMPTION.—COD-LIVER OIL.—FATTY FOOD.

Masses of crude unorganized matter, containing coagulated albumen and half-formed cells, and called *tubercles*, are frequently found in the lungs, producing *tubercular consumption.* The immediate cause of the disease is an abortive or perverted nutrition, tubercle being produced instead of true tissue.

It has been lately maintained that the faulty nutrition which results in tubercle, is caused by deficiency of oily substances, and therefore such of these substances as are easiest digested and absorbed have been indicated as remedies. Cod-liver oil has come into general use for this purpose. Dr. Bennett, who first introduced this oil to the attention of the English and American public, states that butchers, cooks, oilmen, tanners, and others who are constantly coming in contact with fatty matter, are less liable than others to tubercular disease; and Dr. Simpson has observed that children and young people employed in wool-factories where large quantities of oil are daily used, are generally exempt from scrofula and pulmonary consumption. These facts would indicate that even absorption of fatty matter through the skin may powerfully influence nutrition.

Dr. Carpenter observes: "There is a strong tendency and increasing reason to believe that a deficiency of oleaginous matter, in a state fit for appropriation by the nutritive processes, is a fertile source of diseased action, especially that of a tubercular character; and that the habitual use of it in larger proportion would operate favorably in the prevention of such maladies, as cod-liver oil unquestionably does in their cure. A most remarkable example of this is presented in the population of Ireland, which, notwithstanding the

concurrence of every one of the circumstances usually considered favorable to the scrofulous condition, enjoys a most remarkable immunity from it, without any other assignable cause than the peculiarly oleaginous character of the diet usually employed."

Dr. Hooker, in a recent report, says: "First, of all persons between the ages of fifteen and twenty-two years, more than one-fifth eat no fat meat. Second, that of persons at the age of forty-five, all excepting less than one in fifty, habitually use fat meat. Third, of those who have abstained, a few acquire the appetite for it, and live to a good old age, while the great proportion die of consumption before forty-five. Fourth, of persons dying of consumption between the ages of fifteen and forty-five, nine-tenths at least have never used fat meat."

Dr. Chambers says: "The effect of cod-liver oil becomes less and less a marvel the more we know of physiology. An easily assimilated oil comes, in fact, into the short list of life-giving articles in the pharmacopœa, for it is itself the material by which life is manifested. Hence under its use, beneficial influences are exerted throughout the whole body; old wounds and sores heal up; the harsh, wrinkled skin regains the beauty of youth; debilitating discharges cease, at the same time the normal secretions are more copious; the mucus membranes become clear and moist, and are no longer loaded with sticky spithelum; the pulse, too, becomes slower,—that is to say, more powerful, for abnormal quickness here is always a proof of deficient vitality. To find the easiest assimilated oil, and to prepare the digestion for the absorption of oil, are the main problems in the cure of consumption."

TAPIOCA POISONOUS!

Persons sometimes complain of headache after eating of plain tapioca pudding. It is not generally known that tapioca is a variety of starch which comes from South America, and is obtained from the root of a plant containing a poisonous milky juice. When it appears as a white powder, it is called Brazilian arrow-root. The term tapioca is commonly applied to that form of it which appears in small irregular lumps, caused by its having been dried on hot plates and then broken up into fragments.

BED AND BEDDING FOR THE SICK.

A patient's bed should always be in the lightest spot in the room, and he should be able to see out of a window. It is scarcely necessary to say that the old four-post bedstead, with curtains, is utterly

inadmissible, whether for the sick or well. Hospital bedsteads are in many respects very much better than private ones.

There is reason to believe that not a few of the cases apparently resembling scrofula among children proceed from the habit of sleeping with the head under the bed-clothes, and so inhaling air already breathed, which is further contaminated by exhalations from the skin. Patients are sometimes given to a similar habit, and it often happens that the bed-clothes are so disposed that the patient must necessarily breathe air more or less poisoned by exhalations from the skin. A good nurse will be careful to attend to this. It is an important part, so to speak, of ventilation.

It may be worth while to remark that where there is any danger of bed-sores, blankets should never be placed under the patient. It retains damp, and acts like a poultice.

Never use anything but light blankets as bed-covering for the sick. The heavy cotton and impervious counterpane is bad, for the very reason that it keeps in the emanations from the sick person, while the blanket allows them to pass through. Weak patients are invariably distressed by a great weight of bed-clothes, which often prevents their getting any sound sleep whatever.

A word about pillows. Every weak patient, be his illness what it may, suffers more or less from difficulty in breathing. To take the weight of the body off the poor chest, which at best is hardly up to its work, ought, therefore, to be the object of the nurse in arranging the pillows. Now what does she do, and what are the consequences? She piles the pillows one upon the other like a wall of bricks; the head is thrown upon the chest, and the shoulders are pushed forwards, so as not to allow the lungs room to expand. The pillows, in fact, lean upon the patient, not the patient upon the pillows. It is impossible to give a rule for this, because it must vary with the figure of the patient.

Tall patients suffer much more than short ones, because of the drag of the long limbs upon the waist. But the object is to support, with the pillows, the back below the breathing apparatus and above the hips, so as to allow the shoulders room to fall back, and to support the head, without throwing it forward. The suffering of the exhausted patient is greatly increased by the neglect of these points. And many an invalid, too weak to drag about the pillow himself, slips his book or anything at hand behind the lower part of his back to support it.

THE IMPORTANCE OF KEEPING THE SKIN CLEAN.

It has been ascertained by actual computation that there are 2,800 holes or pores in every square inch of the human skin. The number of square inches of surface, in a person of ordinary height and bulk, is 2,500; the whole number of pores, therefore, is 7,000,000. Each of these pores is the aperture or mouth of a little tube, about a quarter of an inch long, called the perspiratory tube, and the amount of these for the entire body is 48,000 yards, or nearly twenty-eight miles. Twenty or thirty ounces of perspiration escape through these channels daily, and upon evaporating into the air, leaves a residue upon the surface of animal and saline matter, consisting of acids, alkalies, calcareous earth, &c.

It is a curious fact, illustrating the necessity of cleanliness and of keeping the pores of the skin open, that if a coat of varnish or other substance impervious to moisture be applied to the exterior of the body, death will ensue in about six hours. The experiment was once tried on a child in Florence. On the occasion of Pope Leo the Tenth's accession to the papal chair, it was desired to have a living figure to represent the Golden Age, and so a child was gilded all over with varnish and gold-leaf. The child died in a few hours. If the fur of a rabbit or the skin of a pig be covered with a solution of india-rubber in naphtha, the animal ceases to breathe in a couple of hours.

INDICATIONS OF LONG LIFE FROM THE LOBES OF THE EAR.

The physician can assure the patient with long lobes, in the absence of malignant disease, of the probability of long life. He can speak with more confidence in regard to recovery from either acute or chronic diseases, when the lobe is long than when it is short. Nor will he fail to observe that a large proportion of sickly people have a short lobe, or none at all.

Where a naturally strong constitution has suffered from excesses, the long lobe has become withered and wrinkled. And when one side of the brain, as indicated by a seated pain, has suffered more than the other, he will find the lobe of that side more withered than the other. Whatever tends to enfeeble the constitution, whether excessive toil, study, or venery, contributes to the change in the lobe.

BENEFITS OF LAUGHTER.

Probably there is not the remotest corner or little inlet of the minute blood-vessels of the body that does not feel some wavelet from

the great convulsion produced by hearty laughter shaking the central man. The blood moves more lively—probably its chemical, electric, or vital condition, is distinctly modified—it conveys a different impression to all the organs of the body, as it visits them on that particular mystic journey, when the man is laughing, from what it does at other times. And thus it is that a good laugh lengthens a man's life by conveying a distinct and additional stimulus to the vital forces.

SUGAR CANDY AND HOW IT IS COLORED.

When pure sugar is melted or dissolved, it forms a clear liquid, and when allowed to cool or dry without disturbance, it crystalizes into a transparent solid like glass. When threads are suspended in the sugar solution, crystals of extreme hardness collect upon them, which are known as rock candy. The cause of the whiteness in refined sugar is that the crystals are small, confused, and irregular. To make candy white, the sugar, while cooling, is agitated and worked (pulled), which breaks up the crystals and renders the mass opaque. Candy is commonly adulterated with flour, and frequently with chalk. Various colors are given to sugar confectionary by adding paints and dyes expressly for the purpose. Some of these are harmless and others poisonous. Those which are least injurious are the vegetable and animal coloring matters, but these neither form so brilliant colors nor are so lasting as the mineral compounds, which are most deadly. The following are the chief coloring substances used by confectioners to beautify their sugar preparations:—

Reds.—Oxide of lead (red lead), bisulphuret of mercury (vermillion), bisulphuret of arsenic (red orpiment).

Yellows.—Gamboge, chromate of lead (chrome yellow), sulphuret of arsenic (yellow orpiment).

Blues.—Cobalt, smalt (glass of cobalt), carbonate of copper, ferrocyanide of iron (Prussian blue), ultramarine.

Greens.—Diacetate of copper (verdigris), arsenite of copper (emerald green), carbonate of copper (mineral green).

Purples.—Formed by combining blues and reds.

It may be alleged by some that these substances are employed in quantities too inconsiderable to prove injurious, but this is certainly not so, for the quantity used, as is amply indicated in many cases by the eye alone, is often quite large, and sufficient as is proved by numberless recorded and continually recurring instances, to occasion disease and death. It should be remembered, too, that these

preparations of lead, mercury, copper, and arsenic, are what are termed *cumulative*, that is, they are liable to accumulate in the system, little by little, until at length the full effects of the poisons become manifested. Injurious consequences have been known to result from merely moistening wafers with the tongue; now the ingredients used for coloring these include many that are employed in sugar confectionary. How much more injurious, then, must the consumption of sugar, thus painted, prove when these pigments are actually received into the stomach.

Moral.—Allow the children to eat no candy that is colored.

THE PULSE.

The healthy pulse of an adult male person, of large and expansive frame, should be moderately full, even, and number from seventy to seventy-five beats in the minute.

The healthy pulse of an adult male person, of smaller frame and proportions, should, in general, number from seventy-two to seventy-eight beats in a minute. The healthy pulse of an adult female should number from eighty to eighty-five beats in a minute. The healthy pulse of a young person, from seven to fourteen years of age, should number from eighty to eighty-six beats in a minute. The healthy pulse of a child under seven years old, from the period of teething, may be stated at from eighty-six to ninety-six beats a minute. The healthy pulse of an infant, before teething, may be placed at from one-hundred to one-hundred and twenty beats a minute, according as the child is robust or weakly; the robust infant generally exhibiting a less frequent but stronger pulsation. The healthy pulse in old age may be stated, for the male at from fifty-five to sixty-five beats; and for females, at from sixty-five to seventy beats in a minute.

The main point in all ordinary ailments is the rapidity of the pulse, seventy beats in a minute being the average standard in health, in middle life; all above that indicates that the heart is excited, and is exhausting the vital forces. The quicker any machine runs, the faster it wears out; so with the body; in proportion as the heart is beating over seventy in a minute, fever is wasting the system.

The pulse of the consumptive is always fast, generally over ninety, gradually increases, and the consumptive certainly dies.

A pulse of seventy-five indicates fever: if at ninety or a hundred, a high fever.

If the pulse is simply fast, it is fever; if it is fast and hard, beats

like the vibration of a string tightly drawn, it is inflammation, and there is danger always. The pulse is infallible as an index of inflammation in any part of the body; it is immaterial where it is, the wrist says it is in the body somewhere, and always alarms the physician.

MILK AS FOOD.

As an article of diet it would appear that the nutritive value of milk, as compared with other articles of animal food, is not generally appreciated. There is less difference between the economical value of milk, beefsteak, eggs, or fish, than is commonly supposed. The quantity of water in good milk is 86 to 87 per cent, in round steak 75 per cent, in fatter beef 60 per cent, in eggs about 68 per cent. From several analyses recently made, it is estimated sirloin steak (reckoning loss from bone) at 35 cents a pound, as dear as milk at 24 cents a quart; round steak at 20 cents a pound, as dear as milk at 14 cents a quart; eggs at 30 cents a dozen, as dear as milk at 20 cents a quart; corned beef at 17 cents, as dear as milk at 15 cents. The result from these deductions seems to be that milk at even 12 cents a quart is the cheapest animal food that can be used.

Granting this to be true, another question arises, which must be settled if we would expect to derive the full benefit of using milk as an article of diet. It is known by experience that milk does not equally agree with all persons—in the case of some, producing headache and feverish symptoms, and in others giving rise to biliousness. These consequences are no doubt owing in a measure to the peculiar idiosyncrasy of those thus affected; but before it can be adopted as an article of diet it should, as far as may be, be rendered free from these objections. In order to do this, it would be well to first understand the cause of the difficulty. Milk, after being taken into the stomach, is converted into almost a solid curd by the heat, and the acid given off by that organ combining with potash and the soda which the milk contained, and which was necessary to keep it in a state of solution. The watery portion being separated and absorbed, the gastric juice finds it difficult to penetrate and break down the remaining curd, which now acts as a crude indigestible substance in the stomach, giving rise, by reflex action, to headache, and, by its irritating presence, interfering with the digestion of other substances that may be going on. In consequence, the contents pass out of the stomach in an imperfectly digested condition, and in their subsequent course through the system are not properly assimilated; and on arriving at the liver, clog that great strainer of the

blood. The bile not being properly poured out of that organ, the blood in passing though it becomes impregnated with bilious matter, which is carried on through the round of the circulation, showing its effects in the yellow tinge of the eyes and the skin, and occasioning those general unpleasant symptoms comprehended under the term of biliousness.

In order to render milk more digestible, its particles should be divided, which can be effected by bread, or some other farinaceous article. When cooked with rice and eggs (rice pudding), it forms the type of a proper food,—containing nitrogen, phosphates, and starch. Milk, when used as a drink, should be boiled, then diluted with water. The solid matter of milk constitutes a little more than 12½ per cent of the whole, of which more than one-third is casein, or the cheese principle, about one-quarter is butter, and the balance sugar and salts. Of these substances, the butter and the sugar supply heat to the body, while the casein contains tissue-making material in a most concentrated form.

CURIOUS FACT.—MAN MOSTLY WATER.

The living animal is made up for the most part of water. A man of 154 lbs. weight contains 116 lbs. of water, and only 38 lbs. of dry matter. From his skin and his lungs water is continually evaporating. The amount of water thus evaporated is 3½ lbs. daily, of which one-third comes from the lungs and one-third from the skin. Were the air around him perfectly dry, his skin would become parched and shrivelled, and thirst would constantly oppress his fevered frame. The air which breathes from his lungs, is loaded with moisture. Were that which he draws in entirely free from watery vapor, he would soon breathe out the fluids which fill up his tissues, and he would dry up into a withered and ghastly mummy. It is because the simoon and other hot winds of the desert approach to this state of dryness, that they are so fatal to those who travel on the arid waste.

ALL ABOUT COLDS.—HOW TO AVOID THEM.—HOW TO CURE THEM.

Millions of canals or tubes from the inner portions of the body open their little mouths at the surface, and through these channels, as ceaseless as the flow of time, a fluid containing the waste and impurities of the system is passing outwards, and is emptied out on the skin. Ordinarily, it is so attenuated, so nearly like the air, that it can not be seen with the naked eye, but extraordinarily, under the influence of increased natural or artificial heat, as from exercise or

fire, this fluid is more profuse, and is seen and known as "the sweat of the brow"—perspiration.

This fluid must have exit, or we die in a few hours. If it does not have vent at the surface of the body, it must have some internal outlet. Nature abhors shocks as she does a vacuum. Heat distends the mouths of these ducts, and promotes a larger and more rapid flow of the contained fluid; on the other hand, cold contracts them, and the fluid is at first arrested, dams up, and rebounds. If these mouths are gradually closed, nature has time to adapt herself to the circumstances by opening her channels into the great internal "water-ways" of the body, and no harm follows. Hence the safety of cooling off slowly after exercise or being in a heated apartment, and the danger of cooling off rapidly, under the same circumstances, familiarly known by the expression "checking the perspiration."

The result of closing the pores of the skin is various, according to the direction the shock takes, and this is always to the weakest part. In the little child it is to the throat, and there is croup or diphtheria; to the adult it is to the head, giving catarrh in the head or running of the nose; to the lungs, giving a bad cold, or, if very violent, causing pneumonia or inflammation of the lungs themselves; or pleurisy —inflammation of the covering of the lungs; to the bowels causing profuse and sudden diarrhœa, or to the covering of the bowels, inducing that rapid and often fatal malady known as peritoneal inflammation; if the current is determined to the liver, there is obstinate constipation, or bilious fever, or sick headache. Hence a "cold" is known by a cough, when the perspiration is driven inward, and is directed to the lungs; by pleurisy, when to the lining of the lungs; by a sick headache or bilious fever, when to the liver, &c.; diarrhœa or constipation, when to the bowels and liver.

To avoid bad colds, then, it is only necessary to avoid closing the pores of the skin, either rapidly, by checking perspiration, or slowly, by remaining still until the body is thoroughly chilled, that is, until the pores are nearly or entirely closed by inaction in a cold atmosphere or room. In the matter of health, these suggestions are of incalculable importance. The more clothes a man wears, the more bed-covering he uses, the closer he keeps his chamber, whether warm or cold, the more he confines himself to the house, the more numerous and warm his night-garments, the more rapidly will he take cold, under all circumstances, as the more a thriftless youth is helped, the less able does he become to help himself.

Many a cold, cough, and consumption, are excited into action by pulling off the hat or overcoat as to men, and the bonnet and shawl as to women, immediately on entering the house in winter, after a walk. An interval of at least five or ten minutes should be allowed, for however warm or "close" the apartment may appear on first entering, it will seem much less so at the end of five minutes, if the outer garments remain as they were before entering. Any one who judiciously uses this observation, will find a multifold reward in the course of a lifetime.

Note.—On rising in the morning, give the entire person a few minutes' smart friction with a long-handled "flesh-brush." The effect is most exhilirating, and the skin soon acquires such tone and vigor that you will be quite safe from the danger of "catching cold."

TO CURE A COLD QUICKLY.

As soon as possible after taking cold, go to bed in a warm room, covering yourself with at least two extra blankets. Put twenty drops tincture of aconite into half a glass of water, and take a teaspoonful every half hour till a profuse perspiration is induced.

If the aconite is not at hand, drink a bowl of hot ginger or sage tea. Eat no supper—not a mouthful—and on the following morning the chances are you will be quite well again.

When a person takes a cold it will "settle" in the head, throat, chest, bowels, or joints, according to circumstances. If in the head, inducing an unpleasant "stuffing up" and an interruption of the sense of smell, an immediate and grateful relief is experienced sometimes, by applying to the nose a bottle in which has been put a little cotton and a spoonful of spirits of hartshorn, and holding it there a moment; then remove, and re-apply as before. This is repeated several times in the course of a few minutes—the nostrils are freed, and the sense of smell restored.

ABOUT COUGHS.

The lungs, in health, are always throwing out—manufacturing—a thin, mucilaginous-like liquid, near the color of the white of an egg, for the purpose of lubrication, so that they rise and fall at each breath with facility, without friction. This "mucus" is a part of the lungs, a part of their healthful product, and its presence causes no disturbance; but a common cold falling on the lungs, changes the color and consistence of this lubricating material, and it becomes yellow and thick; and this being unnatural, becomes at once a foreign body; nature grows uneasy, and sets up a cough to aid its

ejection, as if it were a crumb of bread which had gone the wrong way. When a cough begins to dislodge this, it comes up in the shape of yellow matter; the cold is said to "break," and the person begins to get well. Whatever represses cough, as all cough drops, lozenges, and troches do, only keeps this yellow matter longer in the lungs—only protracts the cure—but if kept in too long, nature makes the attempt to get rid of it in another way, by re-absorbing the yellow matter and throwing it into the general circulation again,—evidenced by a red spot on one or both cheeks, called "hectic," at the same time night-sweats come on, and this is consumption in its last stages!

All coughs are soonest cured by promoting and increasing them; because nature endeavors by the cough to help bring up the phlegm and yellow matter which is in the lungs, as the lungs can not heal while that matter is there. And as it can not be got rid of without coughing, the more coughing there is, the sooner it is got rid of—the sooner the lungs cleared out for the fuller and freer reception of pure air, which is their natural food. The only remedies which can do any good in coughs are such as loosen the phlegm, and thus less cough is required to bring it up. Those remedies are, warmth, out-door exercise, and any thing which slightly nauseates.

COD-LIVER OIL RENDERED TASTELESS.

Fifteen drops of chloroform added to a table-spoonful of cod-liver oil renders it agreeable to take, without in the least impairing its good qualities or interfering with its therapeutical value.

Another Method.—Sweeten vinegar with honey. Take a small sip, and then take the oil, the taste of which will be perfectly and pleasantly disguised.

FELONS.—NEW AND PROMPT CURES.

As soon as the disease is felt, put directly over the spot a fly blister, about the size of your thumb-nail, and let it remain for six hours, at the expiration of which time, directly under the surface of the blister may be seen the felon, which can be instantly taken out with the point of a needle.

Another.—Take half a teaspoonful of soft soap, and stir in air-slaked lime until it is thick as putty. Make a leather thimble, fill it with the mixture, and wear. Speedy cure.

OLD AGE: ITS CARE AND ITS DISEASES.

Threescore years and ten is now the general term of human existence, whatever it might have been in the times of Biblical history. With women the fifty-third, and with men the sixtieth year, may generally be considered the age at which they respectively begin to exhibit signs of infirmity and decrepitude. Diseases incidental to this stage of life then come into play, and their effect upon the habit and constitution are soon manifest. Especially do such hereditary diseases as gout, gravel, rheumatism, apoplexy, and paralysis, arise, to make a wreck of the constitution; and cancer, more particularly in women, commits its ravages, eating into the springs and sources of life, and destroying its victims with deadly certainty. Now it is that any excesses committed in the earlier periods of life, and habitual infringements of the laws of health, are found to have told upon the constitution, although this was not apparent in the full vigor of manhood. Now it is that we find impaired powers of respiration, and of secretion, and of digestion, rendering it necessary to be careful in the air we breathe, the exercise we take, and the food we eat. The latter should be light and nutritious, taken in small quantities, and at short intervals; if meat, and the teeth are defective, it should be minced before cooking, or cut up small afterwards.

There can be no doubt but that the more simply and naturally people live, the longer will be their stay in this world; and although contentment of mind, healthy occupation, and a salubrious residence are great essentials to longevity, the want of these advantages is greatly aggravated by intemperate living and a thoughtless disregard of the precautions necessary in every position in life.

Poverty is a great disturber of repose, and painful indeed is it where embarrassments beset the "old man," but the very idea of it should cause us to be thrifty while young. There is no other remedy, if we can not help ourselves and have no friends to assist, than to bear up with all the philosophy we can muster. It is but for a short time, and the period to all must arrive when there is no distinction or precedence.

MEALS.—SLEEP.

It is best for old people to take dinner early, and a light supper always, unless there is some peculiarity in the state of the health to render this unadvisable. Early to bed, but *not* early to rise, is the rule at this period of life; the aged require much sleep, or, at all

events, much rest, for with them deep sleep is commonly of short duration, and the recumbent position affords all the rest they need; retired as they commonly are from the busy occupations of life, they know not the weariness which results from active exertion, either of the physical or mental powers. Narcotics should never be taken to produce sleep, unless the wakefulness be occasioned by some painful disease.

Exercise should be taken by old persons as long as their failing powers permit, but not be carried to the extent of great fatigue.

Warmth is essential to their comfort and health; they should be wrapped in flannel, and kept in an equable temperature; it has been noticed that on the setting-in of a frost, the number of old people who have died of apoplexy and paralysis has much increased.

Cleanliness, although often neglected by the aged, or those who have the care of them, is very necessary to the preservation of life; the body should be frequently sponged with tepid water, and afterwards rubbed with a rough towel; the feet should be often washed, and the face and hands kept perfectly clean.

Amusement is as necessary to the old as to the young, but it should be of a quiet, unexciting nature.

If unable to read themselves, they should be read to, and talked to, and listened to, for one of the greatest pleasures of old age consists in old memories and associations. Aged persons live very much in a world of the past, and if sometimes tediously garrulous, it should be remembered that from them this world, with its exciting hopes and depressing cares, is rapidly passing away; and that in the circle of life, with them nearly completed, the beginning and the end approach each other, until they finally join,—birth and death forming the uniting points.

MEDICAL TREATMENT FOR OLD AGE.

Medicines for the old should be of a warm and somewhat stimulating nature; alkalines should be avoided, unless absolutely required for the counteraction of a tendency to acid in gout or gravel, and then their action should be carefully watched, as a long continuance of them may probably create a greater evil than that which they are intended to obviate.

The blear eyes with which old persons are often affected, may be somewhat relieved by a collyrium of sulphate of zinc, about six grains in an ounce of distilled water,—the eyes to be damped occasionally with a piece of lint dipped in the liquid.

Aperients are often required by old people, but violent purgatives seldom; these last should be avoided as much as possible; also mercurials, except in very small doses; and neutral salts, which are of too cold and griping a nature. Compound infusion of senna, with a little tincture of ginger, gentian, or cardamums, added to impart warmth, and relieve the tendency to flatulency so common at this period of life, may be safely given. About an ounce of the compound decoction of aloes is a good stomachic aperient; but if there is a tendency to piles, half an ounce of castor-oil in a little gin and water, is good for those whose urinary organs require stimulating; the action of these should be carefully watched, and medical advice obtained on the slightest symptom of derangement, as the want of proper attention in time frequently entails consequences which render the after years those of misery and discomfort. Voiding the urine with old people is a work of time and difficulty; it should always be performed when the inclination arises, and never in a hurried and imperfect manner.

Five grains of the compound rhubarb pill, given at bedtime every night, or as often as required, is a good mild aperient for the aged, but it should be fresh and soft, as should all pills, or they will probably pass through the bowels unchanged. Oatmeal gruel, with figs or baked apples, will, of themselves, often prove sufficiently relaxing; if so, it is best to avoid aperient medicines altogether. For treatment of the diseases to which the aged are particularly liable, reference must be made to their several heads.

ON DEATH.

Death, in its natural order, is not an evil. A state of endless life on earth, with our present organization, is as repugnant as the idea of total annihilation hereafter. A life perfect in all its stages is desirable, but few attain it. If men lived more true, useful, and happy lives, longevity would be far more general.

Life is of value only as a means of improvement and happiness,—deprive it of these, and it is valueless. Those who live longest in reality are those who accomplish the most good.

The process of death is the reverse of the process of development. The generative functions fail first, the animal next, and the organic becomes impotent last. In the act of death, the animal life—that system of passion, thought, and sensation—dies before the organic system. After the senses have lost their power to feel, and the brain has lost its consciousness, the chest expands, the heart beats,

the muscles perform their motions, as usual. What are termed the agonies of death are only the unconscious and painless struggles of the organic system,—in the midst of which the soul is triumphant, serene, and happy; in its new-found freedom, it rejoices in a higher and brighter sphere of existence.

Natural death, which is the gradual decay of the system in old age, is as painless as any other healthy and natural function. It is not a proper cause of regret to the individual nor to his survivors. The calm death, which follows at the close of a long and well-spent life, is the most beautiful thing in our whole existence. We may weep over the dying couch of infancy; we may sorrow for those who are cut off in youth or manhood. This earthly life, to them, has been a failure. It has not answered its purpose. It has not been lived in its integrity. Even after a long life, we may regret that it has been less useful, or less happy, than it should be. Amid the discordances of our present social state, there are everywhere infinite causes for regret; but even now, death is welcome to the aged,—joyfully welcome to all who know the uses of life, and have performed their alloted part, they can then—

"Like ripe fruit drop
Into our Mother's lap, or be with ease
Gathered, not harshly plucked."

PART VII.

GENERAL OBSERVATIONS REGARDING THE YOUTH OF BOTH SEXES, AND THE DUTY OF PARENTS AND GUARDIANS.

When the famous Alexander Pope, of Twickenham, gave utterance to the celebrated aphorism, "The proper study of Mankind is Man," he was doubtless fully cognizant of the fact, that the laconism embraces everything appertaining to the sexes as such, as well as to the human family generally. To a mind so astute and analytical as his, it must have been obvious that most if not all of the defects, mental and physical, peculiar to any generation or people, were attributable solely to the imperfect training of its youth, or to the indulgence of such inharmonious and incompatible marriage relations as disfigure the annals of the present day, and as have marked so frequently those of past ages.

As in the vegetable kingdom, the selection of proper seed and soil is indispensable to the production of a perfect plant, so in the animal is the enlightened and judicious blending of the sexes a *sine qua non* to the production of a being representing all the excellence of its species. This is an axiom the most unassailable; and hence the vital necessity of accepting it in all its integrity, and of never transgressing it in any respect upon the exalted plane of human existence.

The sentiment of love, in its highest and most divine acceptation, can obtain between the sexes only. Although far from antagonistic to that of friendship or affection, it differs widely from it; inasmuch as it has more important ends to attain, and can never exist between individuals of the same sex. Friendship or affection for one another may characterize the intercourse of men, or of women; but love, in

its truest sense, never This latter is the golden link which unites us at once to our opposites and to heaven, and that culminates in that holy and mysterious compact which results in the propagation of our species, and the accomplishment of our mission in this direction.

While in pursuit of the study of this question, however, we must be careful not to confound or confuse the love under consideration with the mere animal passion that so often steals its guise to gratify the cravings of lust, and that so constantly betrays the youth of both sexes into excesses that terminate, on one side, at least, in years of misery or shame. And here we would address ourselves more especially to the inexperienced maiden whose guileless heart is too often open to the deceitful blandishments of some cruel suitor who has but one object to attain, or to the sincere and ardent professions of some thoughtless youth, who, without pausing to analyze the motives which actuate him or the stability of his intentions, accomplishes her ruin, and leaves her to learn, alas! too late, that, save before the altar, no woman is justifiable in placing her character and happiness in the keeping of any man. In such instances, deceit and sincerity being alike at fault, the only safe course for the maiden who would escape the Scylla of the one or the Charybdis of the other, is to keep watch and ward on the battlements of her prudence and virtue, and, no matter how impassioned and sincere the pleadings of any individual upon whom she may have bestowed her affections, preserve both intact, as the only means of retaining his love and respect, should he be a true man, and of keeping herself unsullied in the eyes of society and of the world generally.

Although delicate and difficult, the task of whispering some truths into the ears of a young maiden arrived at the years of discretion, yet, so necessary to her well-being and happiness in every possible relation is it that she should be made thoroughly aware of the untoward influences which so constantly obtrude themselves into even the purest atmosphere, we venture, although with some hesitancy, to assume the serious undertaking. And here we may observe, in the first place, that the primary elements of all that makes life worth a single hour's purchase, are to be found in a thorough recognition of what we owe to the Creator, to ourselves, and to society; and the possession of a mind free from the taint which disfigures some of the literature of the day, and from those low desires and loose ideas, which, with scarce a single exception, result from its perusal. Nothing can be more dangerous to the youthful mind than even a passing

glance at the works of any of those authors who appeal to the animal passions in a manner so insidious and ruinous, and who, before a young maiden is aware of it, destroy all her sense of delicacy, and often, alas! betray her into those dreadful excesses which, although kept the profoundest secret from every living soul save herself, invariably end in the total loss of innocent purity and the utter destruction of all physical beauty. We need not be more explicit upon this subject, but may summon on the witness-stand in proof of what we here state, the sallow and lifeless features, the dim eyes, and despondent gait, which are significant to the astute medical man, and which are to be encountered so frequently in what is termed the very best society. Any violation of the laws of the Creator in this, as in every other connection, is sure to be visited upon the aggressor; and when we come to consider that the first offence in the particular relation now alluded to, leads quickly to another, and yet another, until transgressions crowd upon each other thick and fast, and seize upon the whole being, we shall be able to perceive at once how vital the necessity for every young maiden to eschew with prayerful diligence the source of such terrible dangers, and to be in a position to feel within herself, at the period when she may be called upon to give her hand at the altar to some one worthy all the love and affection that could be bestowed upon him, that she enters the marriage state as pure in mind and body as the veriest child, and that in this relation not a cloud or a regret can obscure the sunshine of her after years.

In the observance of the course which is here suggested or implied, lies the corner-stone of all the bliss that attends upon the sacred compact into which two young souls enter for life. And here we would observe, that, in this direction, a serious and solemn duty devolves upon mothers, to instruct at the proper moment, their daughters, as to the dangers that beset them, both mentally and physically, at a certain age. In this relation there should be no false delicacy felt The truth must be told, and in a manner the most unmistakable. A life of happiness or of misery hangs on the issue, and there should therefore be no mincing of the matter. The crime of self-abuse, if we must say it, is not confined to the sterner sex only. Some of the most fearful examples of it amongst females are to be met with terrible frequency, and of a character so hopeless as to embarrass all medical interference, and to seal the doom of those who had so fallen from their natural birthright and high estate.

How indispensable, then, the proper education of young girls, and how necessary to surround them with a mental and moral atmosphere the most pure and desirable. Let them begin aright, as children, and learn to think well and soberly as they advance in years, and there is nothing to be feared. Let their minds and dispositions be formed on the models of the virtuous fireside rather than upon those of the gaily decorated and frivolous saloon or drawing-room. Let them be taught to respect their own persons, as a sacred trust from heaven, and to feel that any violation of the laws appertaining to their physical being, in the sense under consideration, can not fail to be visited with the direst results. This knowledge the judicious mother can impart by degrees, and in her own way. She has at her command various modes and opportunities of approaching the subject successfully, which do not obtain in the case of any other individual whatever. Consequently, she is to a great extent accountable for the future happiness or misery of those who lie nearest her heart in this matter; for it must be obvious, that she, above all, can influence their conduct and habits of thought before they arrive at that period of life when they are presumed to think and act for themselves.

It is surprising how often children of unusually tender years are led by bad companionship to familiarize themselves with the abominable practice which we need not again pause to particularize. It is within our own knowledge, that not long since, in this very city of New York, a young girl of great prominence, and most respectably connected, became a hopeless victim of this awful infatuation. And this was the more lamentable, as she promised to be as lovely as the day, and was possessed of a form and figure that were of exceptional beauty. At first her mother was unaware of the cause of her gradual transformation; but when made sensible of the truth, she found, perhaps too late, that to her own criminal neglect the disaster was to be mainly attributed; for, before her unfortunate child was eleven years of age, she had learned to make war upon her mind and body in a manner so effectual that it was pitiable to look upon her when she arrived at the age of thirteen. What has become of her since we are unable to say; but this much we know, it will take a strong hand to rescue her from the most terrible of fates, or to restore her to any degree of health or strength. To the companionship of books and children of questionable morals this whole disaster may in reality be attributed, for the parents of this wretched being

were of themselves of morals the most irreproachable, but not wise and watchful in their day and generation.

The necessity, then, of the strictest caution on the part of mothers in the selection of books or playmates for their children becomes obvious at a glance. The child is the marble from which the woman is sculptured; and if the youthful block is disfigured, fractured, or broken, where may we find the moral, mental, or physical chisel that shall obliterate or remove the damning defects?

An eminent physician has justly observed on this head:—

"We now approach a part of our subject which we would gladly omit, did not constant experience admonish us of our duty to speak of it in no uncertain tone. We refer to the disastrous consequences on soul and body to which young girls expose themselves, by exciting and indulging the morbid passions. Years ago Catherine E. Beecher sounded a note of warning to the mothers of America on this secret vice, which leads their daughters to the grave, the madhouse, or, worse yet, the brothel.

"Gladly would we believe that her timely admonition had done away with the necessity for its repetition. But current medical literature, and our own observation, convince us that the habit of self-abuse has increased rather than diminished. Surgeons have recently been forced to devise painful operations to hinder young girls from ruining themselves, and we must confess that, in its worst form, it is absolutely incurable.

"The results of the constant nervous excitement which this habit produces are bodily weakness, loss of memory, low spirits, distressing nervousness, a capricious appetite, dislike of company and of study, and, finally, paralysis, imbecility, or insanity. Let it not be supposed that there are many who suffer thus severely; but, on the other hand, let it be clearly understood that any indulgence whatever in these evil courses is attended with bad effects, especially because they create impure desires and thoughts, which will prepare the girl to be a willing victim to the arts of profligacy. There is no more solemn duty resting on those who have the charge of young females than to protect them against this vice.

"But, it is exclaimed, is it not dangerous to tell them any thing about it? Such a course is unnecessary. Teach them that any handling of the parts, any indecent language, any impure thought, is degrading and hurtful. See that the servants, nurses, and com-

panions with whom they associate, are not debased; and recommend scrupulous cleanliness.

"If the habit is discovered, do not scold or whip the child. It is *often* a result of disease, and induced by a disagreeable itching. Sometimes this is connected with a disorder of the womb, and very frequently with worms in the bowels. Let the case be submitted to a judicious, skillful medical adviser, and the girl will yet be saved. But do not shut your eyes, and refuse to see this fact when it exists. Mothers are too often unwilling to entertain for a moment the thought that their daughters are addicted to such a vice, when it is only too plain to the physician."

We have it on high authority that modesty is the chief quality in the adornment of woman; and in no case is it more grateful and becoming than on that of a young maiden who has arrived at that important and interesting period, when she may be wooed and won and made a wife. What the age of puberty is, has been made a careful study by medical men. In the temperate zone, fourteen years and six months is the average period of its first appearance in healthy girls. If it occurs six months earlier or later, then there is probably something wrong. There is sometimes a wider deviation from the age stated here than this, and without any serious meaning; but at no time is such a deviation to be neglected. In a vast majority of cases it is owing to some defect in constitution, health, or formation, and should be seen to and corrected at once, otherwise years of hopeless misery may be the result. "Mothers, teachers," observes the author just quoted, "it is with you this responsibility rests. The thousands of miserable wives who owe their wretchedness to the absence of proper attention at the turning point of their lives, warn you how serious is the responsibility."

The foundation of old age, observes a celebrated author, is laid in childhood, but the health of middle life depends upon puberty. This maxim is invaluable. The two years which change the girl into the woman, frequently seal forever her happiness or misery in this life. They decide whether she is to become a healthy, cheerful wife and mother, or the reverse,—to whom "marriage is a curse, children an affliction, and life a burden." Both sexes mature more early in hot climates than in temperate or cold ones. Within the tropics, marriages are usual at twelve or fourteen years of age. Such precocity, however, is the precursor of early decay; for a short childhood portends a premature old age, and *vice versa*.

It is not a favorable symptom to experience any indication of puberty before the usual average time, as it betokens a weakly and excitable frame. Let us therefore enumerate the principal causes which incline to hasten it unduly. Idleness of body, highly-seasoned food, stimulants, such as beer, wine, liquors, and in some degree, coffee, tea, and irregular habits of sleep. The mental causes are, however, still more potent in tending to premature development. What stimulates the emotions, leads to unnaturally early sexual life. Late hours, children's parties, sensational novels, questionable pictorial illustrations, love stories, the drama, the ball-room, talks of love and marriage, &c., all hasten the event which transforms the girl into the woman. This becomes obvious when we compare the average of puberty in large cities and country districts, it being clearly ascertained that the females in the former mature from six to eight months sooner than those in the latter; and the result may be seen more plainly in the well-preserved farm-wife of thirty when compared with the languid and faded city lady of the same age.

During the two short years, then, that transform "the awkward and angular girl of fourteen" into the graceful maiden of "sweet sixteen," the utmost caution is to be observed in every relation, moral and physical. The magic wand of the fairy is at work, and a new creature, as it were, is being released from her chrysalis state, with sentiments and responsibilities that must be kept well in hand. The transformation goes on until at last the system acquires the requisite strength, and furnishes itself with reserved forces, when the monthly periods commence.

A writer of great judgment and experience on this subject, asserts that one of the most frequent causes of disease about the age of puberty is *starvation*. He avers that many a girl is starved to death, from the fact of food of an improper quality being given to her, or from the circumstance of sustenance being administered to her in insufficient quantities, or at improper hours. Hence, from the want of proper nourishment, the system becomes enfeebled and subject to attacks of disease, and especially to those of consumption. The food at such periods should be abundant, varied, and simply prepared. Good fresh milk should be used daily, while tea and coffee should be thrown aside totally. Fat meats and vegetable oils, so generally disliked by girls at this age, are exactly what they require at this juncture of their lives.

All kinds of exercise proper to a young lady, and especially those

which lead into the pure open air and sunshine, are also beneficial at this momentous crisis; and a particular kind is to be recommended for those whose chests are narrow, whose shoulders stoop, and who have a hereditary predisposition to consumption. If it is systematically practised along with other means of health, we would guarantee any child, no matter how many relatives have died of this disease, against invasion. It is voluntary inspiration. Nothing is more simple. Let her stand erect, throw the shoulders well back, and the hands behind; then let her slowly inhale pure air to the full capacity of the lungs, and retain it a few seconds *by an increased effort;* then it may be slowly exhaled. After one or two natural inspirations, let her repeat the act, and so on for ten or fifteen minutes, twice daily. Not only is this simple procedure a safeguard against consumption, but, in the opinion of some learned physicians, it can even cure it when it has already commenced.

At first the monthly loss of blood exhausts the system. Therefore, plenty of food, plenty of rest, plenty of sleep, are required. That ancient prejudice in favor of early rising should be discarded now, and the girl should retire early, and, if she will, sleep late. Hard study, care, or anxiety, should be spared her. This is not the time for rigid discipline.

Clothing is a matter of importance, and, if we were at all sure of attention, there is much we would say about it. The thought seriously troubles us, that, so long as American women consent to deform themselves, and sacrifice their health to false ideas of beauty, it is almost hopeless to urge their fitness for, and their right to, a higher life than they now enjoy.

With thoroughly healthy girls, what is usually termed the monthly period, continues to recur at regular intervals, from twenty-five to thirty days apart. This is true of something like three out of every four. In others, a long interval, occasionally six months, occurs between the first and second sickness. This latter, *if the general health is perfect*, need excite no apprehension; but under the slightest mental or physical derangement the case must at once receive intelligent treatment. Perfectly healthy young women, have, on the other hand, been known to have been unwell every sixteen days, while others again experienced this change every thirty-five or thirty-six days only. This appears not easy of explanation, and may, perhaps, be attributed to some inherited peculiarity of constitution. In this relation, climate seems to play a prominent part;

as travellers tell us, that in Lapland this phase of woman's physical life occurs but three or four times a year.

"At this critical period," observes an able physician, "the seeds of hereditary and constitutional diseases manifest themselves. They draw fresh malignancy from the new activity of the system. The first symptoms of tubercular consumption, of scrofula, of obstinate and disfiguring skin diseases, of hereditary insanity, of congenital eplipesy, of a hundred terrible maladies, which from birth have lurked in the child, biding the opportunity of attack, suddenly spring from their lairs, and hurry her to the grave or madhouse. If we ask why so many fair girls of eighteen or twenty are followed by weeping friends to an early tomb, the answer is, chiefly from diseases which have their origin at the period of puberty. It is impossible for us to rehearse here all the minute symptoms, each almost trifling in itself, which warn the practised physician of the approach of one of these fearful foes in time to allow him to make a defence. We can do little more than iterate the warning, that, whenever at this momentous epoch any disquieting change appears, be it physical or mental, let not a day be lost in summoning *skilled, competent* medical advice."

From what has been now said it is impossible for any mother of ordinary good understanding to mistake for a moment the shoals and quicksands, both moral and physical, that surround her daughters, whether as mere girls or grown-up maidens. A careful supervision of the company they keep and the books they read—their determined exclusion from the society of either men or women of lax conversation or morals, and the careful inculcation of self-respect, which can alone be based upon proper pride and purity, will go far to obviate the dangers that beset their path, and so ground them, ultimately, in the principles of virtue and a correct demeanor, as to put evil thoughts to flight on their first approach.

While a handsome person and excellent acquirements are always desirable on the part of any individual who pays his addresses to a young maiden, yet there are other and more important considerations which ought to overshadow mere physical beauty or mental attainments; and these are a high sense of honor, and a thorough and practical conception of the duty we owe to God and man. These latter constitute the imperishable part of our nature when properly moulded, and are the staff upon which we can lean with confidence when our mere physical being loses all its brightness, and totters to its fall. Hence the necessity of warning the young and untutored

heart against mere outward appearance, and directing it towards a recognition of those attributes and features on the part of the sterner sex, upon which a life of true happiness can alone be founded.

This is a matter of such paramount importance that we feel the necessity of impressing it, to the utmost of our ability, upon those who have arrived at the years of understanding, and whose hearts may yet be free or partially so; and who may be induced to pause ere they commit their happiness for life to the hands of those who may not only be unworthy of a woman's love, but who seek to obtain it under the false pretences of a comely exterior or the adventitious matter of dress, while every fibre of their nature may be selfish beyond measure, and set only upon the momentary gratification of a passion that when once satisfied turns aside from the hapless and unsuspecting object that has inspired it, and leaves her to mourn in the silence of her lonely chamber, the fate she might have avoided, but that is now beyond repair.

How warm soever her feelings and sentiments, every step taken in the paths of courtship by a marriageable maiden should be well observed and guarded. In her conversation or conduct there should be nothing of thoughtless levity, or anything that could warrant a familiarity on the part of her suitor which might not be taken in the presence of some dear friend or relative. To observe a proper and well-considered course in this relation, is to secure the increasing admiration of the being upon whom she has bestowed her affections, if he be worthy her love. And here we may observe that this is no mere speculation, but a fact as firmly established as any in human experience. For although the tide of passion may run high in an unguarded moment, and set in against heaven and society, yet the terrible and painful ebb follows as surely as effect follows cause, and leaves at least one of the thoughtless culprits stranded forever on the bleak and barren shore of her earthly existence.

There is, therefore, nothing so desirable as firmness and caution on the part of a young maiden in her intercourse with her accepted lover; and both can be observed without wounding his susceptibility, or impressing him with the idea of either prudery or coldness on her part. Her sentiments in this relation can be conveyed through a thousand different channels, and with such force and effect as to impress and influence to the proper extent any individual possessed of correct feelings, or of the mental and moral requisites to make a wife happy.

Let us glance for a moment at the fate of the many beautiful and warm-hearted maidens whose happiness has been wrecked, even in this city, through the fiendish machinations of perfidious suitors. Scarce a house of ill-fame in our midst but has one or more inmates of this character—poor, thoughtless, and confiding creatures, that would sooner had thought an angel of light capable of deceit than those who had betrayed and ruined them. But they would not be warned, or had not been advised until the die was cast; and hence, without a hope, their wretched downward career began apace, until at last, with their ears familiarized to the ribald song and jest, they sought refuge from the upbraidings of conscience in the intoxicating cup, which so completed and rendered hedious the work of debauch that their persons, once beautiful perhaps to intensity, became a loathsome mass, that provoked both horror and disgust in even the coarsest nature.

And some of those unfortunates had been raised in the lap of luxury, while others had been the idols of respectable and loving households; but the education of both classes had been neglected, as neither had been brought up by strictly moral parents, who had attended upon their footsteps with pious care while they were yet children, and who, as they approached the period of maidenhood, had not excluded every moral taint from the atmosphere they breathed, or taught them true allegiance to the divine laws and those which sustain our great social fabric. Had their guardians inculcated those moral perceptions and principles, without which a woman is the darkest stain on humanity, all would have been well; and perhaps the false suitor, regenerated, or rather transformed, through the persuasive influence of such goodness and piety, might have been induced to turn from the evil of his ways and have led to the altar a happy and beloved bride, the very being who had opened up the approaches to her total ruin by overstepping the boundaries of prudence or those of modesty, without pausing to consider that a step once taken in this latter direction is never recovered.

Although the mental and physical tendencies of mere girls may vary in no small degree, we are of the firm belief, that, under even the most unfavorable circumstances, both may, through judicious and proper treatment, be brought to harmonize with the great objects of creation. In view of the accomplishment of this vast desideratum, then, the early inculcation of proper religious principles, and the

ensample of healthy conversation and moral excellence in the family circle, are of paramount importance. And this is quite compatible with the freedom necessary to the happiness and well-being of even the lightest heart and most joyous disposition. There is not an innocent amusement or pleasure incident to the life of a young girl, that may not be heightened and sanctified, in a measure, through the adroit and loving guidance of a mother of sound observation and an ordinarily well-trained mind. Cruel and unjust as it may be, and is, in many cases, the axiom is a safe one, that the animal passions of men lead them into the blindest excesses, and that in the attempt to gratify them, they too frequently lose all sight of the consequences, and pause only to count the cost when a keen sense of the frailty of their victim prevents them from making the only possible adequate atonement in relation to one already so fallen in their eyes. This is the true state of the case, and the results already glanced at, are, as we have seen, the most lamentable. Mothers and guardians should therefore bestir themselves, if they would do a noble and abiding work in this connection; and never relax their vigilance until those under their charge have attained the age of maturity and understanding, in the fullest sense. Here the parent plays a most important part, and must, if she would see her daughter a happy wife and mother, train her in all the paths of virtue and correct thought. The surveillance may be gentle and loving, but it must, at the same time, be constant and inflexible. Every rock and shoal must be pointed out, and dwelt upon with force and clearness, and the guiding lights of self-respect, purity of speech, and careful demeanor, held constantly aloft and in full view. No other course can possibly succeed, or add, in such cases as now command our attention, to the sum of human happiness. Consequently both mother and daughter should understand each other upon an issue so vital; the younger and more inexperienced looking, with full confidence, for counsel and advice to her truest friend and rightful preceptor, and forming no acquaintance or friendship, with a view to matrimony, without her sanction and approval.

In this relation the quick wit and keen eye of the sober and thoughtful matron will be seldom at fault. She will be able to determine with something like unerring accuracy, and speedily, the character of the suitor who may seek to win the affections of her child, and who must not be judged on mere external appearance, or be taken at his own estimate. Here an honest heart, industrious habits, and

a good record, are of the last importance, and more desirable than gold itself. In saying so much on this head, however, it is not to be supposed that mere worldly wealth is to be disregarded, as an element in any compact between two hearts that would become one, and spend together a life of usefulness and independence. On the contrary, we hold it indispensable, that no young maiden of sound judgment permit her affections or the solicitations of her lover to betray her into the cares and responsibilities of matrimony without the possession or prospect of sufficient means to render her home comfortable, and remove her beyond the probability of want. In this, both caution and prudence should be observed; for to step into poverty and its consequent domestic embarrassments, is often to step out of love; and then, alas! for the future of both parties.

The vital necessity, then, of worthy male companionship, in the first instance, for any young girl whatever, must be obvious to even the most commonplace intelligence. If those who surround her are pure and good, and the uncompromising enemies of the free-love taint and principles which are now so rife in certain quarters, her selection of a proper companion for life will be the less difficult, as fewer chances present themselves for bestowing her affections unworthily. She can take no more important step between the cradle and the grave than that which leads her to the altar. It should therefore be well considered and guarded, as once it is taken the die is cast forever.

Let us then hope that all those most deeply concerned will ponder well the facts we have laid before them on this all-important subject, and let no mother relax for a single moment the vigilance that should wall out from her daughters the dangerous books and companionship to which we have made such distinct reference. In addition, let every young maiden who is approaching the interesting and critical period already named, look well to her footsteps, and beware of allowing her affections to be captured by a pleasing exterior only on the part of one of the opposite sex. However agreeable an attractive face and form, these do not comprise all that is necessary to the most abiding and exalted manhood, and are not unfrequently a delusion and a snare. There is no absolute manliness without manly principles; and no true happiness without moral rectitude and a proper sense of our duty towards heaven. These are the attributes and sentiments that tend to make earth a paradise, and that survive all mere physical excellence, inasmuch as they belong to our immor-

tal part. Let them therefore be sought after assiduously by both mother and daughter in the person of any suitor for the hand of the latter; and let there be no uncertain sound in the premises. Let those desirable features be so prominent in the acts and the demeanor of the man as to be obvious at a glance, and let them not be simulated on certain occasions. True virtue and uprightness of thought and conduct soon manifest themselves in those possessed of such inestimable treasures; and whenever or wherever we see their absence verified either by word or act, we may rest assured that the transgressor is unworthy the love of any woman who values her own happiness, or who hopes to make the marriage state, under heaven, all that it ought to be, both morally and physically.

For the Especial Perusal of Youths of Understanding, as well as for that of Fathers and Guardians.

If man is "the noblest work of God," most assuredly every word, thought, and act of his, ought to tend towards the elevation of his mental and physical being; because this implied perfection is to be regarded in a measure as the result of his aquiescence in all the laws, moral and otherwise, appertaining to his nature. That is, if he would assume and maintain the high position accorded to him, he must not violate any of those divine precepts or rules laid down for his guidance; but from the first moment of his responsibility to the last of his earthly existence, walk in the way of godliness, virtue, and truth, and never transgress any of the provisions relative to the true development and important mission of his animal structure.

The licence accorded to boys when compared with that allowed to girls of the same age, ought to engender in them a chivalrous respect for the gentler sex, and never urge them into anything savoring of egotism or tyranny. The apparent superiority is but simply the result of greater physical strength, and the freedom with which the one sex is permitted to move through the world compared with that accorded to the other. There is in reality no mental superiority in the one over the other; for in this respect it has been shown that the impress of man has been left mentally on the age more than that of woman; because, from some ill-judged laws or rules of society, she has been subject to restrictions which circumscribes to an unwarrantable extent her sphere of action.

But while laying it down as an axiom that there is perfect mental equality between the sexes, we can not refuse to entertain the idea

that woman is the weaker vessel physically, and that her dependence upon man, and her claims to his love and protection, arise to some extent from this cause, although the sublime mystery of her being appeals to him in a higher and more abiding sense. This taken for granted, then, and perceiving, as even the most unphilosophical can, that both sexes were designed to harmonize with each other in every possible relation, and that the weaker and more beautiful is obviously entitled to greater consideration than the more robust, it behooves the latter to look well to their manhood and the perfection of his mental and physical status, for a defect in either is not only destructive of anything like love in the female bosom, but of a character which, with but few exceptions, builds up an insurmountable barrier between the man and the woman towards whom he may be attracted.

We say mental and physical status here, because the body is seldom injured through excesses of any description, without the mind suffering commensurately. And as the foundation of a healthy physical existence are laid in childhood, we would observe that this fact, in relation to boys, as we are now treating on them more especially, should be recognized to the fullest extent by fathers and guardians, as upon their judgment, affection, and fidelity, the character of the rising male generation must mainly depend.

Although, as already observed, a greater latitude is allowed to boys than to girls, in almost every relation, yet this latitude must be circumscribed and confined to certain well-defined, healthy bounds. And here we would again dwell upon the vital necessity of good companionship and good books, where example and precept harmonize with the exalted ends to be attained in after years. Of course, the family circle is to be regarded as the true starting point, whence the earliest lessons in vice or virtue are derived, and should this prove to be lax in any of its teachings, moral or religious, the very germs of success are embarrassed or destroyed at once.

It is astonishing how quickly young lads, not much more than half way to their teens, acquire bad habits and principles from impure associates, or the unguarded conversations which sometimes occur at their own fireside. From both these sources the worst consequences are to be apprehended, as they gradually undermine every principle of good, and so familiarize the tender ear and understanding with what is most pernicious, because of the almost indelible and fatal impress that is left upon the unreasoning susceptibilities. Whatever

may be said to the contrary, there are unmistakable traces of the early hearthstone to be found in the lives of most men; and such being the case, how indispensable it is that the atmosphere that surrounds it should be free from taint, and that the greatest caution should be observed that nothing transpires within its sacred limits that might have the slightest tendency to mar the man in the child, or thwart the beneficent designs of nature regarding him.

In view, then, of the influences of the family circle, and that of the father upon the son, while yet a mere youth or child, that circle should be made as attractive as possible, and on a plane thoroughly comprehensible to the intelligence to which it appeals. If parents would shape their children to the noblest ends, they must gain their confidence and affection by becoming children themselves in a measure. They can not preach or teach to any purpose from a reserved or exalted pedestal, or through the instrumentality of the sober long-faced truths which are applicable to grave years only. The atmosphere of youth is, in the natural order of things, bright and happy; and if we would influence, by precept or example, those still surrounded by it, we must assume to breathe it ourselves for the time being, and sow our earliest good seeds in its tender light. Once the kind and judicious father has won the heart and confidence of his little son, the road to the fullest success lies wide open; and feet that under other circumstances would assuredly have turned aside under less benign influence from the paths of rectitude and truth, are now easily directed into that glorious upward and onward course which never fails to culminate in happiness here and hereafter.

Some of the most terrible evils that beset the path of so many of the young of the sterner sex, result from association with children of their age who have learned to debauch their own persons, and to indulge in those secret habits which have been long noted as fraught with disaster and death. So early the period at which unsuspecting little ones are led into this terrible snare by their seniors of two or three years, that few will be inclined to believe that this first essay in crime has been attempted at the age of eight, and continued until an actual drain on the young energies and vital forces of the system commenced. It is, therefore, obvious that the lynx eye of the father or guardian, or of both parents, should at this tender period of youth be brought constantly to bear upon all the acts and tendencies of their young ward or progeny, and that they should seek to inculcate those pure ideas and aspirations which are the only security

against this danger. Let the playmates, the toys, and the rudimentary books of the child be carefully selected, and let there be for him an abiding attraction about his own door and fireside, so that he may not be necessitated to look abroad for any of those innocent pastimes or recreations that have such charms for the young. The great error of many parents, in this direction, lies in the dry and solemn homilies which they conceive ought to be forever mumbled into the ears of their children, or the long religious services to which they regard their subjection as wise and indispensable. This is a fatal mistake. The medium through which the young are to be taught successfully their dependence upon heaven and their duty towards God and man, should rather consist of the green fields, fruits, and flowers,—of sunlit skies, running brooks, and balmy winds,—the song of birds, the changing seasons, and the summer woods. These and the beneficent design of the Creator in calling them into existence for the benefit of man in a pre-eminent degree, should form the earliest pages presented for the study of the child; and if each of the beauties and truths they contain be carefully explained upon the basis of that higher information which may be sought through the "revealed word" as the young student advances in years, the result will be the most happy, and culminate in all the perfection possible of attainment in this earthly sphere.

But while inculcating these salutary lessons, there must be no false delicacy on the part of the father, relative to pointing out, in the clearest possible manner, the dangers with which his inexperienced and susceptible child is assuredly surrounded. The parent is but ill versed in his duty, or the prevalence of the crime of self-abuse in the young, who fancies that by keeping his youthful offspring in ignorance, so far as he knows, of the character and manner of this frightful offence, that the child must necessarily escape its taint. Let there be no misconception on this head; for it may be accepted as a leading fact, that nineteen boys out of every twenty learn something of it at a very tender age; and from sources, too, but badly qualified to warn them of its terrible results. And be it further remembered, that no matter how innocent and unconscious of guilt the first attempt at its commission on the part of a poor unsuspecting young creature, there is something almost fatal in tampering with even the undeveloped organs of generation, or in endeavoring to excite them to undue or premature action. This fact must be dwelt upon in the plainest possible manner, and so

impressed upon the youthful mind as to satisfy it that a single move made in this direction tends to speedy destruction and death to both body and soul. So soon, then, as the child is capable, in any degree, of comprehending advice and instruction, this subject must be broached in the best and most impressive manner known to the judicious father who would acquit himself fully in the sight of God and man; for to leave the matter to mere chance, in the hope that escape was possible through a fortuitous combination of circumstances, would be to be guilty of a crime the most henious, and scarcely second to that of murder.

To the youth of understanding, however, we may address ourselves more directly; assuming that he may not be altogether free from the taint of this sin. In the first place, then, let us lay it down as an inexorable fact, that so terrific and contaminating this practice in any degree, that it not only tends to destroy every particle of physical beauty and manhood, but, if persisted in, results in absolute idiocy, or a premature and most horrible death. This is no overdrawn picture, but may be taken as an absolute fact, in connection with the quite as inexorable truth, that the youth addicted to this prevailing vice is as certain to render himself incapable of propagating his species or consummating the holy sacrament of matrimony, as that the sun is in the heavens at midday. In the unnatural excitement which saps his whole being, he may fancy, at the time of self-abuse, that this is not so; but should the crisis ever arrive when a loving and confiding wife is betrayed into his arms, then comes that terrible humiliation which is worse than death. There is no escape from the consequences of this monstrous offence should it be indulged in to a certain point; for then it siezes upon the whole being, and like the infatuation of the arsenic eaters, whether continued or abandoned, ends alike in the most appalling mental and physical suicide.

What youth, then, of the slightest manly feeling, or intelligence, would so make war upon his physical being, as to render him disgusting to the pure and good of the opposite sex, and even to those who had fallen from virtue, and taken refuge in the lowest brothel? Can it be possible that any individual who sets the slightest store by the love of a beautiful woman, or the possession of every manly attribute and sentiment, will, after the perusal of these startling and inexorable facts, approach the edge of this shuddering abyss, or, if partially engulfed in it, will not struggle to extricate

himself at once. There may yet be time to retrace his steps, and escape the awful depths that yawn beneath him; while the commission of a single offence more may hurl him irrevocably to his dreadful doom. Oh! could we but depict in adequate language the fearful and hideous wrecks that have resulted from this crying sin against nature, each particular hair of the youthful aggressor would stand on end, like the quills on "the fretful porcupine." But so thickly strewn around us, under a thousand loathsome froms, are the evidence of this most damning crime, that those who run may read, if they only will.

And now that we have dwelt at some length on this part of our topic, let us turn for a moment to those youths who have sufficient virtue, manliness, and strength, to eschew this great evil, and say to them, that although they have escaped it, their path is still beset with other snares which lead to discomfort and misery in a lesser degree only. If not prostrated at this disgusting shrine, we have known the manhood of many to fall a victim to unholy and misguided passion, and who, by giving full rein to their unbridled lust, or falling into the snare of some casual circumstance, have brought woe to true and unsuspecting hearts that loved "not wisely but too well." And here we would observe, that when a respect and highest consideration for the opposite sex, is not entertained by a man, whatever his condition, he is unworthy the recognition of society or the favor of heaven There is something of infinite treachery and cowardice on the part of a suitor, sincere or pretended, who steals into the affections of a young maiden, with a view to betraying her, or who having once gained them on an honorable basis, takes, in an unguarded moment, advantage of the love she bears him, to humiliate her in her own eyes, if not to accomplish her ruin beyond redemption. No true and chivalrous man or youth who respects the person or the memory of the mother who bore him, has ever been guilty of doing such distardly violence to the sex, or of treading ruthlessly beneath his feet what God has made so confiding and beautiful, and what is in every relation the counterpart of his own sister. There is something here which demands attention, and which should be subjected to the strictest analysis and scrutiny. To the professional profligate, who knows no law, human or divine, we do not address ourselves. We leave him in the hands of the Living God, who is sure to call him to account when he least expects it. To such, however, as are not vitiated in this relation, and whose inexperience is beset with warm pas-

sions and susceptibilities, we would give a few words of caution and advice; hoping to enlist their sympathies and attention regarding a matter which affects so vitally their interest and happiness, not only in this world but in the world to come.

To be succinct, then, when a youth finds himself approaching the threshold of manhood, or that period of life which succeeds his mere boyish days, he in most cases enters upon a new and charming phase of his existence, which is expressed mainly in a desire for female society, and generally for that of one being beyond all others, who in his admiring eyes appears to be the best and most beautiful of her sex. Now this is nothing more nor less than the first dawning of love, and before we would have its partial victim commit himself irrevocably to the overpowering passion in any individual case, we would implore him to pause on the verge of the charmed circle, and ere he become hopelessly entangled in its delicious mazes, seek advice from his natural guardians, and analyze for himself all the circumstances surrounding the being who has awakened such strange sensations in his bosom, and the possible result of attempting to unite his destiny to hers forever.

To this end, he must endeavor to look upon things as they really exist, and not permit his enthusiasm or admiration to present them in any romantic or fanciful light. As a primary step in this direction, he must measure his own pecuniary circumstances and prospects, and see how far justified he might be in endeavoring to win the affections of any young maiden with a view to making her his wife. We are, of course, aware that but few inexperienced youths pause thus practically upon the threshold of new hopes and aspirations; but then this does not nullify the wisdom and necessity of doing so. No honorable or prudent person will commit himself to a step so serious as that of marriage, without seeing, to some extent, the road before him; nor will he tamper with the love or affections of any woman whatever, whom he considers unworthy to become his partner for life. In the fullest manliness on this point there is a chivalry the most noble and exalted. Everything like deceit must be discarded totally, and if it is found that the over-sanguine fair one has misinterpreted any word or act of kindness on the part of him who may regard her as a friend only, she must be undeceived, and at once. The safest rule to follow in this relation is for the young man to be cautious, and never inspire any hopes or confidences in any of the opposite sex, that he does not wish to exist. There

are a thousand channels through which the pleasantest intercourse may flow securely, without entering upon this vital one; and these are familiar to every person of ordinary good understanding. Where there is no intention of awaking in the female bosom a sentiment of love, there should be neither act nor word calculated to provoke it; and if, as is often the case, one of the softer sex, overstepping the bounds of prudence if not of modesty, makes advances on her part, then the only honorable and correct course of the object of her affections, is to withdraw himself totally from her society.

After becoming satisfisd that he is in a position to support a wife, and being free in person from such physical blemishes as have been already alluded to, the first care of the expectant bachelor should be to select from among his acquaintances a maiden of comely looks, industrious habits, and sound and pure morals. These are essentials the most important, and must underlie all the accomplishments which render a woman fascinating, if she is ever to become the light of her own household. There can, of course, be no objection to the possession of those ornamental acquirements which render a drawing-room so attractive at times, such as music, bright conversational powers, and all the agreeable phases of a polite education; but these, desirable as they undoubtedly are, must not be accepted as the true constituents of happiness; but rather as the agreeable guise that the more serious and abiding attributes assume, until the moment for their more active agency presents itself again. No man of moderate means has ever dined off a piano solo, or supped off a dish of fashionable gossip; and hence the necessity of looking for something more substantial in the person to whom he might be induced to pay his addresses, with a view to matrimony, and of eschewing every female, no matter what her attractions, who has not within herself the knowledge and elements that constitute a good housewife. The freaks of fortune are often both sad and surprising; and hence it is of vital importance that parents educate their children in some trade or calling that might stand their friend in the hour of adversity, when they might find themselves deprived of the last shilling. And here we may refer, briefly, to the helpless condition of some of the fashionable youths who are depending solely upon circumstances for a life of ease and pleasure to which they devote themselves, and who, through a single turn of the wheel of fortune, might be reduced to beggary, from the fact of their having no positive means at the ends of their own fingers of earning their daily

bread. On this point we would urge the knowledge of some useful employment on the part of the young of both sexes, no matter what wealth may surround them for the time being; because by its acquisition they are, in a measure, secured against fate, and have an inner and more satisfactory sense of independence than flows from the possession of mere perishable riches.

But, now presuming that our young suitor is fairly on the carpet, and that, with the sanction of his parents or guardian, which is indispensable, he has determined to win, if possible, the heart of some fair one supposed to be possessed of all the attributes, and the germs of all the qualifications, adverted to, it must be apparent that his hour of danger and difficulty has arrived, and that in dealing with it, the greatest caution and prudence ought to be observed. With a view to the fullest success, then, and in furtherance of the great object upon the holiest and highest basis, the moment he perceives a being worthy all his love and affection, she must at once become sacred in his eyes and never be the subject of any familiarity that might shock her ears or her sense of propriety in any degree, or that might tend to lower her in her own estimation. The more chaste and considerate his intercourse with her, to even the most trifling word or whisper, the higher her sense of his nobility, and, consequently, the warmer and the more profound her sentiments of love towards him. It is a mistaken idea that an occasional questionable jest or brilliant *double-entendre* has any charm for the ear of a young maiden of correct perceptions; for although the circumstances of her position may often extort a smile from her as a foil for her pain and discomfiture, the shadow of the cruel though unintentional offence does not easily pass away from her, inasmuch as it is calculated to awaken in her chaste bosom doubts as to the morality and purity of the being whom she may love dearly. Let there be then, on the part of the suitor, a noble consideration for the woman who has given her whole heart to him; and let him feel that the bonds which she is willing to assume, can be only made holy and happy when forged in a sense of true delicacy and the highest moral obligations. One impure, indelicate, or low word uttered in the ear of a truly chaste and virtuous woman may be destructive of her true happiness for all time to come; while a single trifling act savoring of the libertine could not fail to estrange her from the transgressor forever, if faithful to her pride or sex, or else so humiliate her in her own eyes, as to cause her to feel that the love she brings to the altar

is not so worthy, so fresh, or so sanctified, as it would have been had it not been soiled and dishonored, in a measure, by him who should have guarded it more jealously.

The demeanor, then, to be observed by a young man, in relation to the maiden of his choice, must, while open, generous, and warm, be carefully studied, elevated, and free from the slightest taint of immorality. The step which he premeditates is the most serious that could possibly be undertaken by him, and as it involves a partnership for life with a being whom he is to pledge himself before God and man to love and cherish until death, it behoves him to make the compact one of the most chaste and sacred, so that it may never pall upon his sensibilities, but always, under heaven, bear the impress of unfading youth.

And now that we have been so explicit on this point, we must go farther, and warn the ardent and well-meaning suitor of another precipice that besets his path from the period of his declaration to his appearance before the altar, and that is, the great danger that attends the warm embraces which a lover sometimes bestows upon his affianced, when alone, without presuming for an instant, that his passions may outstrip his reason, and, in a moment of intense excitement, hurry him into an excess that would destroy the purity and self-respect of the being who confided so implicitly in his honor, until she stood before him a guilty and injured woman. This is a matter for most serious consideration; for notwithstanding that the aggressor makes every reparation in his power and still redeem his plighted vows, the memory of this great indiscretion or crime, is likely to overshadow all his subsequent married life. Let it then be distinctly understood, that even the ordinary embrace so frequent between two young lovers before they become united in marriage, must be indulged in with caution and reserve, where no eye but that of heaven is upon them. The passions, like tinder, often take fire from the slightest spark, and it therefore becomes a matter of the last importance, that until a man and a woman become one according to the laws of society as well as those of the Creator, the stronger vessel must keep his desires in hand with a bit and bridle the most inflexible and stern; otherwise all the charm and brightness which properly belong to the marriage state can not fail to be tarnished or perhaps ultimately extinguished in gloom.

When entering upon that phase of his life which tends towards matrimony, the young and ardent suitor, once that his heart is

truly engaged, should treat the object of his affections with such loving respect and consideration, as could not fail to ennoble him in her eyes, and secure her heart upon a true and abiding basis. Every maiden of modesty and womanly instincts is thoroughly conversant with what is due to her, and alive to every circumstance, however trifling, bearing upon the character of her intended. The more profound her love the keener her discrimination, and the more jealous her eye and ear. Not a single expression or act appertaining to his intercourse with her or others but is weighed unconsciously, and subjected to that subtle process of analysis which is almost instantaneous in its results. It is therefore ungenerous, and as dangerous as it is unjust and reprehensible, to wound her susceptibilities in any relation; for notwithstanding that she may permit, without actual censure, or apparent chagrin, any slight direliction of duty to pass in this relation, she can not fail to feel its unworthiness, and the shock to her esteem and affections which it must necessarily entail.

But if we have dwelt upon what may be termed the two leading evils which beset the path of youth, there are yet others, scarcely less dangerous, which require the most careful consideration; and one of these is the sin of intemperance. We need not travel out of every day common record for evidence to establish the dread consequences of this dire infatuation and its general prevalence. Like most other criminal practices, it steals through the first stages of its progress by slow and imperceptible degrees; but at each unconscious step, so securely does it entangle its victim in its meshes, that not unfrequently he passes beyond the final point of redemption before he is thoroughly alive to his lost and hopeless state. And here, again, the influence and habits of the home circle become of the first importance. If unswerving temperance be the inexorable rule of the household—if the seductive cup, in even the most harmless aspect, be banished from it with firmness and persistency, there is every hope that the dangerous out-door influences which so throng the path of the inexperienced, may be met and neutralized.

But if the household be tainted, to any extent, with the vice—if indulgent fathers and mothers will tempt their children with an occasional sweet spoonful of the poison, they do neither more nor less than set fire to one end of a slow fuse which is almost sure to result, one day or other, in the most fearful destruction.

But as we are speaking, as it were, to a youth of understanding, we must appeal to his own manhood and sense of right. And here

we would observe, that next to the appalling crime of self-abuse, that of habitual intemperance is most destructive of pure love, and of the physical capacity or power to realize from the chaste passion all that heaven designed it should accord. No woman of correct feeling or judgment has ever bestowed her heart upon an habitual toper, or enjoyed his society for a moment, not to speak of his maudlin embrace. This is true beyond question, and to an extent so dreadful, that no inconsiderable portion of the infidelity which a neglected and disgusted wife visits upon her husband to-day, may be traced simply to the vice of habitual drunkenness on his part. No matter how warm the affections of the maiden, or how sincere the love of the wife, this curse tramples out both alike; and hence the necessity of the utmost vigilance on the part of any youth who would win and retain the heart of a pure and beautiful maiden, or preserve his health and manhood intact until both, at a ripe old age, declined in the natural order of things. It may be laid down as an axiom, then, that no true love can exist between a good and pure woman and the man who renders his person disgusting to her, and who in a measure emasculates himself through the constant use of intoxicating liquors; and when we come to dwell on the fact, that the prostration of his high mission and manhood arises from the indulgence of a loathsome vice, whose inception is to be traced to the first fatal and seductive glass that is thoughtlessly raised to his lips, surely the individual who is yet free from the taint of this curse, or the man who is its partial victim only, should, if these few lines happen to meet his eye, never approach—or dash from him forever—the cup that has been so fraught with some of the direst crimes, heart-aches, and miseries, known to the human family. When, therefore, it is a fact beyond contradiction, that a persistent use of stimulants of any description tends to generate morbid and adventitious sexual desires, that are succeeded by a reaction the most depressing, inconvenient, and dangerous, and that frequently result in permanent injury, what shall we say in denunciation of the habitual use of those fiery potations that not only lead to rags and beggary, but corrupt the blood, disfigure the features, and trail the last particle of manhood in the dust?

To all within reach of our warning voice we would, then, say, beware of the first glass, and those inebriates or thoughtless persons who would tempt you to pollute your lips with it. There is danger in even looking upon it or in breathing the atmosphere inhaled by

those who have passed its fearful Rubicon, without either the wish or the power to retrace their steps. Avoid such, and their social meetings or orgies, with all the strength and decision of which you are capable; for in this relation also, "wide is the gate and broad is the way that leadeth to destruction."

The vice of intemperance in youth is not unfrequently associated with that of gambling, and is almost invariably wedded to that of promiscuous sexual intercourse; and here we find another dangerous pitfall besetting the paths of the young on their way towards matrimony, and the attainment of the fullest and most perfect manhood. Fatal even as the crime of gambling, *per se*, may be, it is less terrible in its effects than the physical and moral destruction which results from the loathsome and contaminating embraces of the lost and lewd woman who sells her person to every passer by, and so poisons the life blood of her unsuspecting young victims as to entail upon them a life of disease and misery horrible to contemplate. A man may lose his money at the gaming-table, and suffer the pangs of remorse and the beggary that it involves, but criminal as the passion for play is, and frightful as have been the domestic disasters that have resulted and do still result from it, yet if he have escaped the vice of drink and the taint of impure and loathsome women—if his physical structure and mind is not wholly poisoned and debauched—there is hope for him, as a woman's love can survive the one, although it dies out into absolute hatred and disgust under the other.

There is little more to be said on this part of the subject. We have touched all its vital points, and trust that the seeds we have endeavored to plant, in all honesty and good will, may be found to bear the sweet and abiding fruit they are so pre-eminently calculated to yield. In summing up the whole case, then, we would say to fathers and guardians, form the thoughts and habits of your wards or children by a joyous and virtuous fireside. Let their earliest perceptions of right and wrong be based on no uncertain foundation. Set them examples of morality, and inculcate that religion in them which is filled with innocent sunshine and which alone is calculated to inspire their tender hearts with sentiments of true love towards their creator and their fellow men. Warn them, in the plainest possible manner, of the danger of bad company, loose habits, and any and all of the evils and infamous practices that lie in wait for them, and

when they grow up to be men, they will bless and appreciate the kindly care bestowed upon them, and be not only a credit to themselves, but to the human family at large.

On the Relations between Man and Wife.

We now meet, as it were, two pure beings at the altar, who have profited by the advice and ensample of judicious parents or guardians, of sound morals and social views; but notwithstanding that the crowning happiness of the two lovers has been achieved in their becoming man and wife, there is yet much to be considered and accomplished on the part of both before their feet are established upon a rock.

In the first moments of his matrimonial existence, then, the newly fledged husband must not suppose for a single instant the ears or the eyes of his wife are less chaste and pure than they were before she had become his in the sight of God and man. Here is a point of vital importance, and one upon which such grave issues hang that we place it in the very first rank of our present observations. Save in one instance alone, the conduct and consideration evinced towards the maiden must be mainly observed towards the wife; for through this manifestation of respect and delicacy, the freshness and novelty of courtship may be continued for an indefinite period. Let the wife be preserved by the husband a beautiful mystery in part,—let the natural veil of modesty which shrouds every pure woman be never ruthlessly torn apart, or her sense of propriety be blunted by coarse or indelicate remarks, and the charm of her being will never pall upon the senses, but, on the contrary be, as Shelley has it, "A joy forever."

It is too frequently the case that a young husband fancies the nuptial ceremony gives him the fullest power over the person of his wife, and that consequently the precise character of the intercourse between them, now that they are married, is not a matter of much moment; but a more grievous misapprehension could scarcely obtain in any relation, for a wife's sensibilities and person can be so abused as to be debauched in a measure, and so lessen her regard for the secrets of wedlock that they lose all their charms in her eyes, while the aggressor in the case suffers in the same direction, and precisely to a similar extent.

This is a fact substantiated by the experience of tens of thousands; and, as the destruction of the fine fibre of which these sacred relations are formed, obviously leads to much indifference in both parties, we can at once perceive of what importance it is to keep it intact, and how necessary to the happiness of wedded life to preserve to the latest hour of its existence something at least of the sweet freshness that hung about its dawn.

As we have already descanted somewhat diffusely upon the rule of conduct to be observed on the part of the youth as well as on that of the maiden who intended to become one at the altar, so now that we presume them to be man and wife, we would be equally explicit as to how they should comport themselves as such. In addition, then, to what we have already just said, we would observe that in the first moments of wedded life the constant and unreasoning abuse of the privileges of a husband can not but result in evil consequences to both parties, inasmuch as it tends to render commonplace that which is intended by an all-wise Creator to be otherwise, and is the brightest and holiest link that unites the sexes. This privilege once familiarized through constant and inordinate indulgence, loses all its charms, while the abuse which robs it of them, not only tends to injure the young wife physically, but the husband also. In this vital and mysterious intercourse, there must be no false excitement or attempt to forestall nature. In this relation, the tide must flow and ebb according to the promptings of a law that none can fail to comprehend, and whose operations must not be accelerated if they are to be an unfailing source of delight, and to influence us through long years with undiminished powers. The reaction which unvariably attends any continuous excesses of this character is so painful, humiliating, and dangerous, as not unfrequently to lead to the most serious misunderstandings between the parties most concerned and destroy that sweet confidence which should obtain between them. Again, the evil consequences of such excesses to the infant yet unborn are at times frightful to contemplate. A weakly and diseased frame, and, frequently, mind, are the dreadful results, while the health of the mother sometimes suffers commensurately. The young husband also pays his share of the penalty; as the natural excitement which is the true key to all the pleasures that attend the sexual relations when indulged in upon the true basis, dies out under the enervating influences of satiety until the bond between man and wife becomes so relaxed in this relation as to be almost worthless. And let it be

clearly comprehended here, that as this bond becomes weakened or vitiated between the young persons, so wanes their love and esteem for each other, until in time they come to look upon their union with apathy if not disfavor, and then are opened up all the approaches to misery the most abject and heartrending. Let there be, therefore, caution and moderation used in this all-important relation on the part of the husband, as he alone is apt to be the transgressor,—for we can not suppose a case, except in the rarest instance, when the wife is at fault on this head.

As a large majority of mankind have to earn their daily bread in some way or other, we shall be safe in appealing on the subject of prudence and economy to almost any newly-married couple; and, in doing so, we would remark, in the first place, that poverty does not, as a general thing, tend to perpetuate that feeling of love or affection between man and wife that had influenced the days of their courtships, and that, consequently, a primary object with the husband should be the maintenance of his wife upon a comfortable and abiding basis, and the total rejection of any habits that through their expensiveness might interfere with his success in this direction. The man is totally wanting in affection and chivalry, who fails to provide properly for his wife when it is in his power to do so, or when by curtailing some of his wasteful personal expenses he might add to her comfort and independence. Not unfrequently the amount which has drifted into the restaurant, the cigar-shop, and the drinking-saloon, out of the pocket of the young man who has just crossed the threshold of matrimony, if properly expended, might have obviated a life of misery, and laid the foundation of a cheerful and happy fireside for the rest of his days. For it is well known, that these haunts not only tend to engender neglect on the part of the husband towards a wife, but often so embarrass those of anything approaching limited means, that frequent intercourse with them leads, almost without an exception, to domestic infelicities. While we write, we have in our mind's eye a number of thoughtless and unhappy beings, whose thraldom in this relation has destroyed their once cheerful households, and whose neglect had so estranged and disgusted their once true and affectionate wives, that they drifted into infidelity, and became lost to virtue and society forever. The saying, "a constant dropping will wear a stone," is a trite and philosophic one; and the man, young or old, who presumes so far upon the truth and affection of his wife as to fancy that neither could possibly give way under his constant

indifference or vulgar and intemperate habits, knows but little of the human heart, or how easily that of some women is crushed out of shape.

Nor is the newly-married wife secure from danger, on her own part, in this relation; for sometimes she also, now that she considers herself finally disposed of, falls into the practice of indulging in some sweet little spirituous potation, which grows upon her until she at last falls a victim to the intoxicating glass. To the maiden who has just lelt the altar with the man of her choice, we would then say, "touch not, taste not, the unclean thing." There is danger lurking within the intoxicating cup, however disguised it may be, and when once its subtle poison taints the sweet breath or mars the mellifluous tongue of one of the gentler sex, her doom is almost irrevocably sealed! Let, therefore, neither the usages of polite society, nor the seductions of any of her own cherished circle of friends induce her to tamper, even in the most remote degree, with the insidious poison of the bowl; for so subtle and destructive is it, that its first contact with certain natures has been known to lead to headlong ruin, and so swiftly as to appal even the stoutest heart.

In truth, the greatest caution must be observed on both sides of the house in this connection, as well as in that of industry, economy, and prudence. And if the most fitting place for the husband, after the labors of the day are over, is his own fireside, with his young wife by his side, she, "the partner of his joys and woes," must endeavor to surround his home with every possible attraction; and light it up with a cheerful face and all the nameless charms that make it "the only spot on earth" to him. To this end, she must be always neat in her person, if at all within the range of possibility, for there is nothing more pleasurable to a husband than a sense of the purity of the personal habits of his wife, and the comeliness of her attire when she presents herself before him. This latter involves neither labor nor very extraordinary expense. The bath, and, if needs be, the simplest fabrics, shaped, if necessary, beneath her own supple fingers, will meet all the necessitie of the case. These are attractions of such virtue and potency that they always operate like a magnet, and not unfrequently draw a husband away from the evil influences that tempt him to regard his home as a place of temporary sojourn only. We have paid some attention to the subject, and can vouch for the fact, that, in ninety-nine cases out of a hundred, a pure, industrious, and cheerful wife, who meets her husband with a bright and warm smile

on the threshold of her dwelling, spends the majority of her evenings in his society, without a fear for the future.

We are, of course, aware that there are some men so lost to everything that dignifies humanity or renders the marriage state all that it ought to be, that no ties can bind them; but we make no reference to them, and allude only to those of sound understanding and ordinarily good morals. Yet even here we admit that the rule is not infallible, as some husbands are so weak and easily led as to soon fall away from their first love, and lose themselves in less sanctified relations. However, the most advisable course for a young wife to pursue, under any circumstance, is to make her house and her person as attractive as possible, and to supplement the cheerful blaze of her fireside with the light of her own winning smiles and ways, and the thousand nameless little enchantments which, taken together, often weave the silken meshes which retain with a strength not to be overcome, the willing captive who, under less favorable and grateful circumstances, might have launched out into some course of conduct fraught with destruction not only to himself but the being he was pledged to cherish and protect to the last hour of his life.

But there are other observances, also, which ought to be regarded with the most profound caution by the newly married who desire to spend their days in comfort and happiness together; and one is the manner of their intercourse with such of the opposite sex as either the husband or wife may come into friendly contact with. Every properly constituted man or woman is more or less of a jealous disposition; for without this sentiment, active or latent to some extent, there can be no true love. Censure it as you may—call it mean and petty, if you will—but the fact obtains, nevertheless. Who that is conversant with the press in any degree, but can bear evidence to the fact that scarcely a newspaper is published without some painful recital, bearing upon this point, meeting the eye. To avoid the devastating influences, or approach of the "green-eyed monster," should be a leading feature of the wife's prudence, as well as of that of the husband; for so unreasoning and sensitive are our natures in this direction, that when they are once aroused to suspicion, they seldom or never recover their wonted tone of confidence. And yet the accused party may be virtually innocent of the crime laid to his or her charge, although there are generally some grounds for censure on the score of thoughtlessness or that lightness or trifling which is so

liable to be misinterpreted by certain individuals. Above all things, then, and especially on the part of the wife, no matter what the purity of her soul or intentions, she is always to be circumspect with regard to her conduct or intercourse, in company or otherwise, with any of the opposite sex. Caution and decorum in this connection is of the first importance; for not only might any thoughtless familiarity, or any laxness of self-respect on this head be wholly misinterpreted by her husband, but, how innocent soever, be likely to fare no better at the hands of the individual towards whom she might have comported herself with unconscious levity. There is, therefore, nothing for it but the strictest prudence and an unswerving adherence to such a line of conduct as might be pursued with safety in the presence of her husband towards any gentleman of her acquaintance. Nor must there be any innocent secret confidences with any male friend, no matter how laudable the object, outside the sanction and recognition of her rightful counsellor and protector. The truer and prouder the husband, the more sensitive and the more jealous of his honor, and of his claims upon all the consideration to which he regards himself entitled on the part of the woman of his love—the wife of his bosom.

Lamentable as it is, the fact is notorious that even one furtive glance—one thoughtless expression—one little whisper—has often led to direst consequences between man and wife. The despotism of true love is, at times, frightful on this head; for without pausing to reason, it frequently gives way at once to the most devouring jealousy. When, therefore, we know that any want of circumspection on the part of the wife in her daily intercourse with such of her male friends as may have access to her fireside or table, is certain to be construed to her prejudice, and when such would be certain to disturb the spirit, and awaken perhaps the most fearful misapprehensions on the part of her husband, were he a proud, loving, and sensitive man, she can scarcely over-estimate the importance of the advice which we here offer, and which if followed rigidly, is sure to redound to her credit and happiness, and keep the light hovering about her hearthstone and burning brightly upon the altar of her own heart. As a general rule, then, no matter how intimate her gentlemen friends may be with her husband, or how frequently they may find a welcome beneath her roof, there must still be observed towards them that chaste and prudent course of conduct which they will not be slow to respect, or to attribute to the right cause, and which may be indulged

in without the slightest shadow of acerbity or detriment to even the most generous hospitality. The fact is, a woman in all her most exalted relations is something like snow,—the purity and lustre of which, as we all know, suffer to some extent, at least, from foreign contact.

But it must not be presumed that the husband is not equally bound to be strictly observant on his part, also, as to how he comports himself in the opposite direction. The usages of society, we are well aware, allows him a greater latitude in this sphere than it accords to his wife; but then there are proper limits set to it likewise; and the moment he transgresses them he also becomes rightfully the subject of censure, and is an aggressor against the peace and happiness of the being he vowed to protect and cherish with all the love and affection of which he is capable. Yet, while the wife admits that civilized usages permit him to move with greater freedom among females than is accorded to her in her intercourse with males, she can determine, with the quick eye and intuition of her sex, when he transgresses the bounds of decorum, in her presence, or fails in the allegiance due to her alone, and treasures the wrong within her soul of souls. In this it is impossible for a husband to deceive with continuous success the perceptions and intuitions of the partner of his bed. There is about her that which fathoms and apprehends the most trifling approach to infidelity or immorality on the part of the man she loves. No matter how silent or uncomplaining she may appear to be, she feels, from certain unexplainable indices perhaps, that all is not right; and thus the canker sets in, that, if she loves with all her soul and might, gradually destroys all that makes life worth an hour's purchase, saps her life-blood, and hurries her to an early grave.

These are truths which admit of no contradiction, and such being the case, the husband, in his turn, should, in his intercourse with the opposite sex, be just as careful and as sparing of the feelings of his wife as she of his. Nor need there be any sacrifice on the part of either, if both are pure and wise in their social relations. Let there not be a shadow of doubt or secrecy between them on any subject whatever. Let the one be as frank and generous to the other in every relation, as possible for man and wife to be, and let no difficulty respecting the conduct of either relative to a third party remain unexplained for a single moment. Let there be no secrets, no mystery, but everything between both as plain, as honest, and as

open as the day, and much that might otherwise be dangerous or unpleasant will be obviated totally.

As in the unmarried state, so in the married, the selection of proper associates and friends is a matter of vital importance. No man or woman who is careless in this relation can fail to suffer from the circumstance. It therefore behooves the young husband to exclude from his house or fireside such persons of their acquaintance as are of loose or questionable habits, and who, beneath the mask of a pleasing exterior, conceal a heart given to deceit or lewdness. It is impossible not to suffer from frequent contact with such people; and for a husband to introduce any of them into his household is to thrust an indignity upon his wife, and subject her to influences the most unholy. There must, consequently, be no vacillation in the course to be pursued here. If a husband is aware personally or by report, that a man, no matter what his social position, is of impure morals or even inclined to light speech or conduct, he must never be permitted, if at all possible, to breathe the same atmosphere as that inhaled by a pure and good woman beneath the roof of her own dwelling; for to subject her to inspiring it, after the contamination it must in some cases have suffered, would be a wrong so grievous as to be almost without a parallel.

In the same way the wife must be cautious and circumspect in relation to the choice of lady friends and acquaintances; and, above all things, before taking them to her bosom, she must be thoroughly satisfied of their uprightness, and purity of thought and action. The very attire even must not be overlooked, in the selection; for where a young or an old woman is gaudily or expensively dressed, when there is not the amplest means to sustain the folly, they are to be invariably regarded as undesirable companions,—while, should they even be possessed of adequate wealth, they may be generally set down as light, frivolous people, of contracted minds and unhealthy tendencies. There is no difficulty at all in recognizing those upon whom the young wife may properly rely for womanly aid and sympathy, when such are necessary. The chaste matron, of silvery locks, with her sweet, pure daughter, who has been brought up to feel her dependence upon heaven and her duty towards the whole human family, are of the class whose society should be cherished and prized by the interesting creature who may soon become a mother. Those of erratic ideas and disquieting influences ought to be studiously avoided; as their presence in any household is undesirable, from the fact that

frequent contact with such persons often so blunt the sensibilities and confuse the sense of right and wrong, that domestic misunderstandings soon obtain, and the happiness that should attend a well-ordered family marred, perhaps, forever. Intercourse with thoughtless and extravagant people, and especially those whose chief delight is gossip and dress, is especially dangerous to the young housekeeper of moderate means, as it awakens within her a spirit of emulation that is unworthy, and tends to create desires which outstrip her income and lead to the embarrassment of her husband. If a wife in limited circumstances will select for her companions such flimsy and gaudy creatures, she must soon find herself drifting into their reprehensible and expensive habits, or will, at last, begin to institute such inconvenient comparisons between their costly attire and her own neat and simple habiliments, as are likely to lead to discontent and such discomforting sentiments regarding her husband and her surroundings, as seldom fail to result in partial if not total estrangement of the one from the other. "Evil communications corrupt good manners," is an aphorism of undoubted truth and universal recognition; and in no circumstances of life has the force of the adage been more apparent, at times, than in those pertaining to the early marriage relations of young persons of moderate means. The ensamples of extravagance in dress, or in any other relation, among the companions of the inexperienced wife or those of her youthful husband, are dangerous in the extreme, and should be avoided with constant and studious care. The duties of the household in the one case, and those out-door employments which generally obtain in the other, are never so well performed or attended to as when associated with ideas native to them, or imbued only with a desire to attain wealth or position upon an honest, reasonable, and useful basis,—which, after all, is the broadest and surest foundation that can be built on in any relation of life.

To succeed, then, in the marriage state, it may be laid down as a general rule, that the habits of both wife and husband shall be frugal, and their tastes congenial, to a great extent. If possessed of any antagonistic elements, their first and constant care should be to endeavor to harmonize them on the basis of love and chivalry,—the husband yielding a point on the grounds of the one, and the wife moving forward a step to meet him under the promptings of the other. And to this end all disputations, how trifling soever, ought to be eschewed with the greatest care. Out of mole-hills such as

these, very frequently real mountains arise, and to the fatal disruption of all domestic ties. We have been taught that the gravest consequences sometimes arise out of trifles; and in no respect has the truth of this become more apparent than in the relations existing between man and wife. Let there, therefore, be the best and most loving understanding between both. If the husband has acquired any habit distasteful to his wife, and based upon no principle of utility or common sense, he should speedily abandon it; and if, on the other hand, the wife has any failing or foible which may be dispensed with to advantage, she will be wise in discarding it and affording her husband an opportunity of perceiving that she is willing to sacrifice—if sacrifice it may be called—whatever habits or traits of character are distasteful to him on her part. Through such mutual compromises they will learn to live a life of happiness, and each become more and more a part of the other.

But, whatever the wealth of a newly-married couple, the wife will always find it to her interest, both mental and physical, to cultivate frugal and industrious habits, as from these no inconsiderable portion of her health and enjoyment must accrue. No lackadaisical novel-reader or victim of fashionable *ennui* has ever yet tasted the sweets of life, married or single, to the extent designed by nature. The woman who keeps her own household well in hand, or who manages it in some adequate degree at least, never spends a fruitless or tiresome hour. Time never hangs heavily upon her hands; and as the comforts that obtain, or grow up about her, are in a measure her own creation, her enjoyment of them will be the more keen, and her pride in their existence more grateful and justifiable. There are no circumstances in life so well assured to any individual as to enable him or her, as the case may be, to assert that the encroachments of poverty have been made impossible. Often do we perceive the millionaire of to-day the beggar of to-morrow; and such being the undoubted fact, the woman is wise who renders herself to some extent independent of the whims of fortune, by accustoming herself to the performance of such household duties as are indispensable to her own comfort or that of her husband, and who keeps her fingers more or less engaged in the pursuit of some feminine occupation calculated to minister to her needs in the hour of necessity.

While making these observations, however, it must not be presumed that we ignore the culture of the mind or of the taste. On

the contrary, the interests of both may be attended to with excellent results, if the manner of improving them be clearly understood. There is scarce an object in art or nature that does not afford a text to the sincere inquirer after truth; and as all knowledge lies in understanding the one and the other in the profoundest sense, this may be approached, to some extent, by those in even the most restricted circumstances, if they only begin at the right point and pursue their studies systematically.

To the accomplishment of this end, all trashy novels and exciting romances should be scattered to the winds; and pleasant, instructive books adopted in their stead, whenever a moment can properly be devoted to reading. There is nothing which so unfits a maiden or a young wife for her duties as the study of such characters as are presented in the sensational, yellow-covered literature of the day. From the perusal of such questionable works the very worst results accrue. Between the plane upon which such heroes and heroines live and breathe and the one upon which all sensible people exist, there is such antagonism as to make the one wholly incompatible with the other. Consequently, in indulging in the contemplation of such creations and circumstances as form the staple of a vast majority of the publications that now flood the market, is to make war upon common sense, and imbibe such sentiments and general views in relation to our responsibilities as are at once unhealthy and inadmissible. Interesting works, disclosing real knowledge in a popular and fascinating manner, such as those on natural history, the manners and customs of the different peoples of the earth, interesting biographies, incidents of travel, and such like, are desirable at all times; and as we can not but come in contact with works of fiction, our only care in this relation should be to select those of fine moral tendencies, that while they give a true insight into human character and present vice and virtue in their proper colors, shall lead us on in the paths of progress and religion, until we attain the highest perception of our duties and obligations to the great Author of our being, and the mighty human brotherhood to which we belong.

These are considerations of the gravest importance. The young wife, to whom we now address ourselves more particularly, can not over-estimate their desirability. The moment she steps across her own threshold, she should, therefore, survey all the circumstances of the case, and begin her wedded life on the only true basis, if a future of usefulness and happiness is her aim. Good habits, like

evil ones, grow upon one; so that the first move beneath her own roof should be taken with caution, and in the right direction. We all know how difficult it is to retrace a false step, or to redeem lost time. To begin well is a point achieved, and one of the greatest importance. The French have an axiom, "it is only the first step that costs," and a truer one has seldom been uttered. The intelligence must, indeed, be obtuse that can not appreciate its force and its appropriateness at the present moment, or recognize the necessity, in relation to both our spiritual and our temporal well-being, of adopting industrious, moral, and temperate habits, as well as of never wearying in the pursuit of that which is calculated to strenghen them, and establish them on an immovable basis.

Another important desideratum relative to newly-married people is, the cultivation of each other's society when at all possible, and the constant study of each other's excellencies. These latter traits of character must be kept persistently in the foreground, and be made, so far as practicable, to cover whatever defects may, at times, peep out on the part of either the wife or the husband. To err is human, and we can not, therefore, expect absolute perfection in ourselves or in others, so that by taking an occasional peep into our own hearts we shall be prepared, in a measure, to make allowances for whatever slight defects may be apparent in those who are near and dear to us. One of the strongest bonds of union between man and wife is that of mutual admiration of each other's society, a similarity of tastes and intellectual pursuits, and a desire to minister to each other's edification and amusement. No day or hour should pass without the cultivation of the warmest sentiments in this connection, for although the circumstances of business may separate the husband from the wife for many hours daily, yet the magnetism of true love and affection can go forth on its subtle mission, and apprise both that their hearts beat in union, and that they are looking forward alike to the happy evening hour which shall re-unite them. A cultivation of such thoughts and the indulgence of such sweet anticipations will tend to cheer both during their hours of separation, and give the keenest zest to the moment when they shall again meet in a fond and welcome embrace. In this way they can, if they will, make their lives and their homes beautiful; and so prepare the way for the first little stranger who may bless their union, that it shall appear on this stage of existence under the most fortuitous circumstances, and draw its first inspirations in an atmosphere of purity and love, when its mys-

terious being had been fostered under the conditions indispensable to a healthy physical and mental organization, and in the absence of which the yet unborn babe is subjected to influences the most destructive, and that scarcely ever fail to manifest their baneful results in after years. How obvious, then, the necessity of considering, with the most profound caution and attention those characteristics and observances which are alone capable of making the marriage state at all desirable! Any laxness in this relation will, most assuredly, be attended with lamentable consequences; for the moment the bond of union between a newly-wedded couple becomes tarnished or in any degree a matter of indifference, it begins to dissolve in reality, and often, unfortunately, becomes impatient of the law that makes its total disruption a matter of difficulty or impossibility.

Concluding Observations.

Now that we have trodden the sweet mazes of courtship and stepped over the more sacred threshold of married life, we have found how necessary it is for the youth and the maiden on the one hand and the young married couple on the other, to harbor no desires or indulge in no practices calculated to mar the happiness which heaven intends should characterize both states of existence. Notwithstanding that we may moralize upon the rottenness of society, and descant upon its multitudinous vices, it has virtue and decision enough left yet, to punish those who violate its laws or usages in certain relations. Nor need there be the slightest misapprehension on this head. Corrupt as the age may seem to be, it does not hesitate, in all Christian communities at least, to denounce every man or woman of known immoral tendencies; and will tolerate in him or her absolute dishonesty rather than the absence of virtue, in the sexual acceptation of the term. We are, however, constrained to admit that the law or usage in this connection is more inexorable in relation to the woman than in that of the man. This is an injustice, but it is useless to kick against it, from the fact that it will always obtain. It is then of the most vital importance that both married and single should accept these facts fully; and, even upon the low plane of selfishness, avoid the transgression of those laws, and eschew indulgence in any excesses or improprieties attended with such disgraceful and embarrassing results.

But no matter how circumspect and cautious a young married or

unmarried couple may endeavor to be in the observance of the duties appertaining to courtship or those belonging to wedlock, unless a sincere recognition of their responsibility to heaven and an ardent desire to do what is right in its sight underlie all their endeavors. Where we find, in either sex, the slightest tendency to matrimonial relations, we must pre-suppose a matured understanding, to some extent at least, and be influenced by the inference that the hour of accountability has arrived. Hence the necessity, on the part of the young who approach the threshold of matrimony, and those who have just crossed it, of cultivating a proper reverence for things of a divine nature, and of asking daily if not hourly for that desire to do right and that strength to perform it which comes only from above. The soul that becomes wholly absorbed in mere selfish gratifications and the pursuits of wealth, however, has fallen from its high estate, and estranges itself from the enjoyment of true earthly happiness; for there can be no God where the love of gain reigns supreme. Industrious habits and a laudable desire of independence, are quite compatible with our duty towards the Creator and our fellow men; and this is the more obvious, as our worldly prospects are invariably enhanced through a strict performance of our obligations in this direction. The day that is begun with a clear perception of our responsibilities, and a determination, under heaven, to perform them, come what may, generally terminates happily, and lays the foundation for a morrow more cheerful and prosperous still. The life is more than meat and the body more than raiment; and as we minister to both daily, so shall our reward be. Although disgusting and ruinous above all things, that sloth and idleness whose doom is misery and whose costume is rags, it is scarcely more reprehensible than that devouring love of gain which so petrifies the heart as to make it impervious to any of those ennobling sentiments which dignify humanity and link us to the skies. We have evidence upon evidence of the truth of this assertion, and are only surprised at such constantly recurring examples before our own eyes of the fact that the struggle for material wealth on the part of both married and single continues, in so many cases, to be at the expense of soul and body.

No man or woman, whatever his or her condition or years, can enjoy this life to the fullest, without sufficient rest and recreation. The quality and quantity of food, or of the textile fabrics from which clothing is manufactured, may be modified to some extent to meet our emergencies, but evil ensues at once should we deny ourselves

sufficient sleep, or such recreation as may be necessary to recuperate our energies, both mental and physical. There is nothing gained by overtaxing our powers in any relation whatever; for nature will assert her claims, and rebel against any persistent encroachments upon her rights, in the ultimate form of disease or death. In the pursuit of their daily avocations, then, those who are constrained to labor for their bread must be cautious that they no not permit their whole existence to be absorbed in the struggle to obtain this world's goods; but rather, when the legitimate hours for labor have been industriously spent, give themselves up to the culture of their minds; and, if married, to those fireside joys in which the cares of the day are so soon forgotten, and which tend to both form and confirm those habits of temperance and moral excellence, without which life becomes a burden, and the ends of creation are frustrated.

The desire to accumulate wealth, however laudable, is attended with great danger, and should never be permitted to gain too great an ascendency over us. And here is just where the golden mean should be observed; and happy is the young husband or wife who is able to adopt it understandingly; and, while they labor to better their circumstances, should they be restricted, persistently regard whatever gold they may acquire as simply an agent for good, placed within their control by Providence, and who, winning it upon an upright, humane, and generous basis, overtaxes neither body nor mind in its acquisition. And then, again, supposing fortune should prove adverse, and cause the light to burn low upon the hearthstone of the frugal, industrious, moral, and loving pair, how beautiful may the mission of both become if they only regard their lot as apportioned to them by Him who makes all things work together for good. Should such a conviction obtain on the part of the wife, while the influence of religion enables her to bow meekly to the chastening rod, then shine forth those angel qualities which are more luminous than light itself, and which go far to rob the darkest hour of its gloom. And cold indeed must be the heart of the husband that could be insensible to the benign influence of such a worthy helpmeet, or that could not sympathize with those noble efforts to render his lot less burdensome, and to prompt him to still labor and hope on with cheerful resignation. It is in this relation, as in all others of adversity, that the angel in the pure woman most shines forth; and, feeling as we do, that not only here,

but in various other directions, her mission is one of the most exalted, we are anxious that no untoward circumstances shall be permitted to embarrass it in the way of habits or associations, and that she shall be always surrounded by those only who are ensamples of goodness and of truth, and who feel that the highest aim of human existence is to glorify the Creator in endeavoring to attain the most exalted point of mental, moral, and physical excellence.

As observed in a former portion of our remarks on the training of the young of both sexes, much of the success that is hoped for, will, if it ever obtain, be based mainly upon the foundation laid in childhood by their parents. And here we again advert to the grave responsibility which attaches to the latter respecting the education and the formation of the habits of their children. In this connection we have endeavored to point out with the utmost clearness the prominent rocks and quicksands upon which even children have been early wrecked; and in following up the question have shown that our remarks applied equally to the case of the youth or maiden who was verging towards the momentous though fascinating precincts of matrimony. We have intimated, also, that the condition of the wife during pregnancy and the rule of her temper influenced her offspring to an extraordinary extent. This latter is a fact of such tremendous importance, that it ought to be engraven upon the heart of every young maiden, and upon that of every wife who is likely to become a mother; for it has been ascertained beyond a shadow of doubt that the indulgence of angry passions, tempers, or humors, during pregnancy, or while the child yet hangs at the breast, is almost invariably fraught with the direst consequences to the unsuspecting and helpless little stranger. Should any disquieting influences continue to disturb the young wife at such periods, the babe, whether born or unborn, carries in its physical structure or in its mental, the ter rible impress of the fact through life; so that not only must the embryo be conceived under circumstances the most desirable—whether mental, moral, or physical—but be nursed in this atmosphere until it reaches that stage of maturity when it is to be born a child into this world. In fact, it is now thoroughly understood that at the moment of conception the frame of mind in which either parent may be, or the leading sentiment which pervades the mind of either—or again the physical condition of either—is sure to impress itself in these relations upon the mysterious entity which is yet to live and move and breathe; and such being the case, we shall lend

further weight to our remarks on this vital topic, by extracting the following important observations on the subject from a recent number of *Hall's Journal of Health*:—

"In France, one person out of every thirteen hundred becomes subject to legal punishment. But of infants abandoned in the streets by their mothers, one out of every one hundred and fifty-eight reaches the State Prison. With this view, eminent men have advised that it would be better to let them all die. But this shows the importance of parental training. The parents should mould the character of their children, not only after they are born, but before. It is the taint in the blood, the mental and moral conditions of the mother while the infant feeds on her milk. A case lately occurred where the mother became uncontrollably enraged at her husband. In half an hour she calmed down and put her infant to the breast; it fell into convulsions, and died.

"Other cases are given, leading to the inference that if within an hour or two of any violent mental emotion the impregnating act follows, the offspring has that predominating trait through life. Nothing else so well accounts for the diversity of character among children of the same parents. The idea merits thoughtful consideration, that a temporary condition of the mind, of a very decided character, impresses itself on the offspring. That condition of mind may not be common to either parent, may not exist once in a year, but its existence gives the tinge—the hue—to temperament and constitution. Aaron Burr's father was a clergyman, the son of a clergyman, and of irreproachable character; his mother the daughter of a clergyman, of mind and morals and social position nowhere excelled—seldom equalled. The youthful pair were brought up in all the innocence and purity of a model family of educated, elevated Christian principles. But impure thoughts come to all at times,—so do doubt and infidelity to the Christian faith. These may have existed at critical times during gestation in the mother, or previously, in the father; for the offspring was a compound of mental power and moral degradation — villainous, traitorous, unprincipled, and impure."

We now draw these brief articles to a close; but before penning the last sentence, we would implore parents and guardians, and all concerned, to ponder long and seriously over the solemn and important truths they contain. No more vital subject can possibly engross the mind of a man or that of woman, inasmuch as it involves the

health and happiness of the rising generation, as well as the interests of millions yet unborn. To parents especially, we would address a few concluding words; beeause, as we have already observed, upon them rests, in a measure, the great weight of the responsibility relative to the future of their children and their bearing upon society, not to speak of their final happiness when they shuffle off this mortal coil.

We need not recapitulate the arguments we have used, or the facts we have multiplied so copiously. The way is plain to the most perfect success, if it is only trodden cautiously, cheerfully, and with reliance upon the Divine Will. Let them then to whom God has given increase, accept the trust at His hands in a proper spirit, determined to do their duty whatever betide, and there is not the slightest fear of the result. And let the maiden and her lover, and the wife and her husband, learn in the same spirit of love rnd meekness, relying on each other mutually for assistance, under heaven, in carrying out the precepts and instructions here laid down, and all will be well.

PART VIII.

Cookery for the Sick-Room.

Apple Tea.

Take good pippins, slice them thin, pour on boiling water, and let it stand some time. Pour off the water, and sweeten and flavor it.

Pour boiling water on to tamarinds, or mashed cranberries, or mashed whortle-berries, then pour off the water and sweeten it. Add a little wine if allowed.

A palatable and cooling drink may be made by pouring hot water over slices of lemon; when cold, to be strained and sweetened.

Make a tea of parched corn pounded, and add sugar and cream.

Toast-Water.

Toast bread very brown, and put it in cold water, and it is often relished. Pour boiling water on to bread toasted very brown, and boil it a minute; then strain it, and add a little cream and sugar.

Wine Whey.

Stir a couple of wineglasses of wine into a pint of boiling milk; take it from the fire, and let it remain till the curd separates from the whey and settles; then turn off the whey, and sweeten it with white sugar.

Thickened Milk.

Take one pint of milk and one pint of water; boil it, and add one table-spoonful of flour.

Dissolve the flour first in half a teacupful of water; it must be strained in gradually, and boiled hard twenty minutes. As the child

grows older, one-third water. If properly made, it is the most nutritious, at the same time the most delicate food, that can be given to young children.

Wheat-Balls.

Tie half a pint of wheat flour in thick cotton, and boil it three or four hours; then dry the lump, and grate it when you use it. Prepare a gruel of it by making a thin paste, and pouring it into boiling milk and water, and flavor with salt. This is good for teething children.

Chicken-Tea.

Take off the skin and all the fat of the fowl, and boil it till very tender, with just sufficient water to cover it, and add a little salt. Take the chicken out of the liquor when boiled, and let the liquor remain till cold to let all the fat rise to the surface, which should then be skimmed off. The tea should be heated when given to the patient. It is a very delicate, nourishing food, and will set well on the stomach when so weak as to be able to retain but little food.

Beef-Tea.

Cut lean beef into small bits, fill a junk bottle with them, cork tight, put it into a pot of lukewarm water, and set the pot where the water will boil for four or five hours. A table-spoonful of this is as nourishing as half a pint of the tea made by boiling the meat.

Mutton-Broth.

Cut up one pound of lean mutton, add a pint and a half of lukewarm water, let it stand for one hour by the fire, then boil half an hour, and strain. If you add barley, one ounce is sufficient.

Flaxseed-Tea.

Take one ounce of whole flax-seed, two drachms of liquorice-root bruised, and one pint of boiling water. Place the vessel containing these ingredients near the fire, and keep warm, but not boiling, four hours; then strain through a fine cloth. This is useful in coughs and urinary affections.

Arrowroot-Gruel.

Boil a pint of milk, and stir into it while boiling a large spoonful of arrowroot mixed smooth with a little cold milk; then add a little salt, and let it boil three or four minutes.

Sago-Gruel.

Cleanse it by first soaking it an hour in cold water, and then washing it in fresh water. To a teacupful add a quart of water and a bit of lemon-peel; simmer it till the berries are clear, season with wine and spice, and boil it all up together. The sago may be boiled with milk instead of water, till reduced to one-half, and served without seasoning.

Indian-Meal Gruel.

Sift the Indian meal through a fine sieve; wet two spoonfuls of this meal with cold water, and beat it till there are no lumps; then stir into it a pint and a half of boiling water, and let it boil half an hour, stirring it all the time. Season it as liked best.

Oatmeal-Gruel.

Mix a dessert-spoonful of fine oatmeal or patent groats, in two of cold water; add a pint of boiling water, and boil it ten minutes, keeping it stirred.

Stir into the gruel a small piece of butter, and some sugar, nut meg, or ginger, grated; or, if it be not sweetened, add a small pinch of salt.

Ground Rice.

Boil one spoonful of ground rice, rubbed down smooth, with a pint and a half of milk, a bit of cinnamon, lemon-peel, and nutmeg. Sweeten when nearly done.

Strengthening Jelly.

Simmer in two quarts of water, one ounce each of pearl barley, sago, rice, and eringo-root, till reduced to one quart. Take a teacupful in milk morning, noon, and night.

Food for an Infant.

Take of fresh cow's milk one table-spoonful, and mix with two table-spoonfuls of hot water; sweeten with loaf sugar, as much as may be agreeable. This quantity is sufficient for once feeding a new born infant; and the same quantity may be given every two or three hours—not oftener—till the mother's breast affords the natural nourishment.

PART IX.

Indications of Disease.

THE COUNTENANCE.

Tolerably clear indications of a person's state of health may generally be read in the expression of the countenance. Where there is great anxiety depicted on this dial-plate of the internal organs, there is likely to be functional or organic disease of the heart, pneumonia, bronchitis, laryngitis, croup, chronic consumption, dropsy of the chest, causing a sense of oppression and impeded respiration. In fevers, and other acute forms of disease which shorten life, there is also this anxious expression, as well as in melancholia, hypochondriasis, and to some extent in low forms of mania.

When the countenance is livid and tinged with blood, there is impeded respiration and circulation, and probably congestion of the brain; this is the case in apoplexy, disease of the heart, effusion of the lungs, &c. A pale countenance is a sign of fainting, of anæmia, and hæmorrhage, external or internal. When the expression is violent and excited, there is probably the delirium of fever, inflammation of the brain, mania, or delirium tremens. In paralysis, convulsions, epilepsy, hysteria, and chorea, we have a distorted countenance; and a flushed one is symptomatic of fever in general, and of the early stage of delirium tremens. Sometimes, in the latter stage of an incurable disease, the face becomes what nurses call "struck with death," and to this hopeless corpse-like expression has been applied the term *Facies Hippocratica*, because it has been vividly pictured by Hippocrates himself. Here is his picture: "The forehead wrinkled and dry, the eye sunken, the nose pointed and bordered with a dark or violet circle; the temples sunken, hollow, and retired; the

ears sticking up, the lips hanging down, the cheeks sunken, the chin wrinkled and hard, the color of the skin leaden or violet; the hair of the nose and eyelashes sprinkled with a yellowish white dust."

THE TONGUE.

With regard to the morbific appearances of the tongue, we may note that it is sometimes *loaded*, as it is termed, the upper surface being covered with a layer of mucous substance, which may be scraped off with a tongue-scraper. This indicates a foul stomach. In severe cases of dyspepsia this coating often becomes very thick and peels off, leaving the tongue red, moist, and tender. Sometimes the coating is dark brown, resembling fibres, which admit of being separated by the fingers. It is then said to be *furred*, and this is symptomatic of great local irritation arising from inflammation. In feverish conditions of the system the tongue becomes very dry and hot, parched, as it is called; if clammy and viscid, there is usually derangement of the digestive functions; a yellow tinge on the coating of the tongue indicates biliary disorder; a thin creamy white, inflammatory disease in the abdomen. In sore throat, we often find it of a dingy whitish color; in scarlatina, we have elongated papillæ, presenting bright red spots; and in some forms of intestinal irritation and hæmorrhage, it is morbidly clean and red. In anæmic patients we find this organ partaking of the general condition of the system, being pale and flaccid; in paralysis it is drawn on one side; in delirium tremens, and nervous affections, it is tremulous; and in low stages of fever it becomes almost black, and can not be protruded. Thus, to the instructed eye the tongue affords a pretty sure indication of the state of the system, and is always consulted by physicians as a reliable authority. For *The Eyes as symptomatic of Disease*, see p. 116.

THE FÆCES.

The fæces is the rejected residue of the food passed into the stomach after it has served the purposes of nutrition. According to to Berzelius, the normal constituents of the human fæces are as follows:—

Water,	73·3
Vegetable and Animal Remains,	7·0
Bile,	0·9
Albumen,	0·9
Peculiar Extractive Matter,	2·7
Salts,	1·2
Slimy Matter, consisting of picromel, peculiar animal matter, and insoluble residue,	14·0
	——100·0

This is the condition of the fæces when the health is perfect, and there is nothing very peculiar in the diet to render it otherwise. In diseases great changes take place, not only in the proportions, but even in the ingredients of which the fæces are composed. By their peculiarities of substance, smell, and color, the medical man is enabled in a great measure to judge of the nature and progress of the mischief going on within; therefore it is of importance that they should be preserved for his inspection. The following are a few of their most obvious indications:—

Natural motions are of a gingerbread-color, slightly varying in tint and hue, and of tolerable solidity of consistence, although perfectly impressible. The smell is offensive, but has not that peculiar fœtidity which is observed in some diseased conditions of the system. The evacuation should be daily, and at or near a certain hour; but a deviation from this rule is no proof of ill health. We have known persons, in a perfectly healthy state, who only went to stool once in two, three, or four days, and even a week. It depends greatly upon habit, but such a habit is not good. Children should be taught to go at a certain hour every day, and the habit of a daily evacuation of the bowels once fixed, will probably remain through life, except when it is interfered with by sickness, or the failing powers which are often a consequence of old age.

Mucous evacuations have a semi-transparent, jelly-like appearance. They may be tinged with brown, green, or yellow, all indicating the presence of bile; or red with blood, when there is inflammation or congestion of the mucous membrane, as in mucous diarrhœa and dysentery.

Lymphatic evacuations have a rough, shreddy, or spotty appearance. There may be little irregular round specks, like dirty white of egg, scattered through the fæces, or long pieces like shreds of lymph or dingy-colored parchment. In this case it is likely there may be acute inflammation of the mucous membrane of the intestines, the seat of which may be in any of the bowels, or merely the rectum. This, like the above, is a symptom of diarrhœa and dysentery.

Pus in the fæces indicates either ulceration of the bowels, or the breaking of an internal abscess into the alimentary passages. If there is much of it, the latter is most likely the case. This is a dangerous symptom.

Bile in the fæces indicates excessive action of the liver, the cause of which may be excessive irritation, or active congestion,—in which

case the color is generally of a bright yellowish brown, but sometimes, especially in children, it is of a decided green color. This, too, is often the case with grown persons, when the liver is just recovering from a torpid state and beginning to act violently. This is commonly the case, too, in hydrocephalus, when the color is a peculiarly deep green. Bilious motions may or may not be loose, although they are generally so, from the bile acting as an irritant in the lining of the bowels.

Absence of bile in the fæces is shown by absence of color. The motions are clayey, sometimes as pale as pipeclay, and ranging from that shade up to the natural hue, occasionally assuming a grayish tint. They vary in substance, and when liquid are usually frothy, and float upon water on account of the quantity of gas which they contain.

Loose motions proceed from so many causes that we can not take them as clear indications of any particular diseases. They are always present where there is an irritated or inflamed state of the mucous membrane, as in diarrhœa, in some stages of which they become altogether watery. If, when in this state, they exhibit rice-like particles, they indicate Asiatic cholera, or the too powerful action of saline or drastic purgatives.

Solid motions, when too much so, indicate constipation.

Offensive motions occur in dyspepsia, especially those forms of it which are associated with hypochondriasis. The fœtor is excessive in low fevers, when the poison introduced into the system seems to render the whole of the solids and fluids thereof peculiarly liable to decomposition.

EXPECTORATION.

This is, first, the act of discharging mucous or other matter from the lungs or trachea; and second, the substances so discharged. The term in its first meaning is synonymous with coughing, and need not further occupy our attention; but in its second, we find so many important considerations connected with the diagnosis of disease, that we must pause awhile to consider it. It is by the nature of the expectoration that the physician is enabled to judge of the character and progress of the malady with which he has to contend. If this be *frothy*, it indicates active bronchitis, catarrh, or influenza; if *stringy*, and of a whitish or yellowish color, the bronchitis has become chronic, or spasmodic, or there may be hooping-

cough present or impending; if *purulent*, it may indicate the latter stages of catarrh or influenza, especially if the sputa, or matter spat up, is mixed more or less with a tenacious mucus; genuine *pus*, capable of being poured from one vessel to another, indicates the bursting of a vomica on the lungs, or of the matter of the empyema having found its way into the bronchial passages; the yellow matter often expectorated in humeral asthma is not truly purulent, but to a large extent mucous. If *lumpy*, there can be no mistake as to the nature of the disease: pulmonary consumption has fairly set in, and made considerable advances; there is sure to be a softening and breaking up of tubercles, where there are small yellowish or whitish lumps expectorated along with the clearer fluid on which they float, perfectly distinct. If *membraneous*, the sputa indicates inflammatory action of a chronic, most likely of a croupy character. If *stringy* and *rusty-colored*, there is certainly pneumonia; if *bloody*, there is hemoptysis,—either a blood-vessel on the lungs has broken, or blood has oozed through the bronchial membrane, both of which are symptoms of a very diseased state of the tissues, and indicative of great danger to the patient. If *offensive* and *putrid*, there may be gangrene of the lungs, but this is only a single sign, and not to be relied on alone.

These are the chief distinctive characters which expectoration assumes, and its increase or decrease in bulk or density, its varieties of tint, and other particular changes, tell to the experienced eye of the doctor how the case progresses, and whether it is likely to terminate in convalescence or death.

THE TEMPERAMENTS.

In physiology temperament has been defined as a peculiar organization of the system common to several individuals, which to a certain extent influences the thoughts and actions. There is, besides, in each individual a further peculiarity of organization which serves to distinguish his temperament from that of another person, to whom, however, he may in other respects bear a great resemblance. This individual temperament is called *Idiosyncracy*.

Four temperaments were distinguished by the old physicians, founded on the notion of four qualities which entered into the constitution of man, and were supposed to *temper* each other, and influence the character, according as one or other prevailed over the rest. These qualities were, in the abstract—hot, cold, dry, moist;

in the concrete—fire, air, earth, and water; and their highest point of development was—

1. The *Sanguine*, or *Sanguineous Temperament*, supposed to be characterized by a full habit, soft skin, ruddy complexion, blue eyes, red or auburn hair, frequent pulse, large veins, and vivid sensations.

2. The *Atrabilious*, or *Melancholic Temperament*, described as existing in a thinner but firmer frame than the preceding, with a dark complexion, black hair, and a slower circulation, a nervous system less easily moved, and a character grave and meditative.

3. The *Bilious*, or *Choleric Temperament*, intermediate between the two preceding, marked by black curling hair, dark eyes, a swarthy, and at the same time ruddy complexion; a thick, rough, hairy skin; and a strong, full pulse.

4. The *Phlegmatic*, or *Pituitous Temperament*. This differs from all the rest, in the laxity of the skin, the lighter color of the hair, and the greater sluggishness of the faculties. Without keeping to the old theory, modern physiologists to a certain extent adopt these terms, to which they have added—

5. The *Nervous Temperament*, marked by a combination of some of the above characteristics, with a quick and brilliant intellect, and great susceptibility.

Not often do these temperaments occur in a pure form. We meet with the indications of two, or even three, of them mingled in one person,—whom, therefore, we must call nervous-sanguine, or nervous-bilious-sanguine, as the case may be.

Viewing temperament as a predisposing cause of disease, we may say that sanguine persons are more liable to acute inflammation than others; nervous, to mental disorders and affections of the nerves; phlegmatic, to scrofula; phlegmatico-sanguine, to gout; and bilious, to hypochondria, and disorders of the digestive organs.

IDIOSYNCRACY.

In most individuals there are certain mental or bodily peculiarities, which we term *Idiosyncracies;* and these, to a certain extent, shape and fashion the life and mode of thought, and greatly influence the state of health. In reference to the latter subject, when we say that a man has a predisposition to gout or gravel, we allude to one of his idiosyncracies, and we speak of the gouty or other state of

that man as his *Diathesis.* What are commonly called antipathies, are the peculiar result of states and conditions of the system, to which the above terms may be properly applied; and it is impossible to affix any assignable cause for these, nor can the medical man be aware of them until he has noticed them in their effects, or been fully informed of them by the patient or his friends.

To some persons a particular odor is perfectly unbearable; others can not abide a certain sound: the sight of an insect, or other animal not obnoxious to most people, will make this or that person ready to faint away, and fill the mind with a nameless dread. These are idiosyncracies, such as Shylock, in Shakspeare's tragedy of "The Merchant of Venice," alludes to—

> "Some men there are love not a gaping pig;
> Some that go mad if they behold a cat," &c.

Then there are those in whom certain medicines produce an extraordinary and altogether unusual effect. We have known a few grains of any mercurial preparation, which would have little or no effect upon systems generally, salivate a person; and food pleasant and wholesome to most, act like a poison. Again, we have seen a particular drug produce a totally different effect from the common one, such as an opiate producing restlessness instead of sleep, and *always* doing this, when administered; for we must distinguish between what are permanent constitutional idiosyncracies, and anomalous conditions of the system which arise from temporary causes. Individuals are often met with who are, in every other respect, perfectly healthy, and who have yet one or more of these peculiarities, which may perhaps be referred to some dietary or other error in himself or his ancestors; for it is curious to observe how they are sometimes handed down from generation to generation.

MATERIA MEDICA.

Applied to that branch of the healing art which relates to the nature and operations of medicines; these remedial agents may be divided into: I *Natural*, or those which are found ready prepared by nature; they may be either simple or compound, organic or inorganic, the former belonging to the animal or vegetable kingdom, the latter to the mineral. II. *Artificial*, or those which have been modified by addition or subtraction of some of their parts; these are called Pharmaceutical preparations, and belong to the department of chemistry.

The greater part of the substances used in pharmacy are taken from the vegetable world; leaves, flowers, barks, seeds and roots, are all used. Much of their properties are lost by gathering them out of season, and improperly curing them. As a general rule, the herbs used in pharmacy should be collected when they are beginning to flower, in dry weather, and at mid-day, when the greatest quantity of moisture has evaporated. They should then be subjected to a gentle heat, spread out thin, and frequently turned, to complete the drying process as quickly as possible; the leaves, or whatever part it is desired to preserve, should be put into bags, and hung up in a dark place until wanted; before drying in this way, the plants should be well shaken, to expel insects and their eggs, and all discolored and rotton portions rejected.

The roots of annual plants are in the best condition for gathering before flowering.

The roots of biennial plants should be collected, after their first year's growth, in the fall.

The roots of perennial plants should be gathered before budding, in the spring.

HINTS ON ADMINISTERING MEDICINES.

It behoves us to lay down a few simple rules with regard to the administering of medicines. We all know how difficult it is, with children especially, to overcome the disgust occasioned by the nauseous taste of most medicines; this often amounts to such utter loathing, that the remedy, if it can be swallowed, is rejected by the stomach, and thus cannot prove effective. It is, therefore, desirable to render medicines as palatable and pleasant as possible and to administer them at such times, and with such precautions at shall render their retention and action most probable; for adults, who can swallow pills, this is the easiest and best mode of taking such remedies as will go in a small compass. For children generally they are unsuitable, and draughts or powders must be given to them, unless, as is now often the case, medicated cakes or lozenges, containing the remedies which their cases require, can be procured.

The best vehicle for children's powders which contain any heavy substance, is sugar moistened just a little, or honey, or molasses, or gum; it must be some thick substance or the powder will fall to the bottom, and so not be taken. Powders with rhubarb, magnesia, or any light substance, may be mixed up thin and drank; a piece of sugar with a few drops of essence of peppermint on it, or a strong peppermint lozenge will get rid of the unpleasant taste perhaps sooner than anything else; those who object to this should chew a piece of dried orange peel both before and after swallowing the medicine. Aperients are best taken on an empty stomach, so are vermifuges; tonics should be taken an hour or so before meals, except preparations of iron, which are best an hour after meals; emetics are commonly directed to be taken in the evening, because after their operation, the patient may rest awhile. Stimulants, of course, may be taken at any time when required; opiates always at bedtime, that their action may not be interrupted; unless it be a case of spasm or violent pain which calls for instant relief. Strong purgatives are best taken in the morning; at night they would disturb the rest, and cause great inconvenience. All these, of course, are but general rules, to which there are numerous exceptions. The discreet mother or nurse will know when they are to be strictly followed, and when departed from.

PART X.

MEDICINES.—THEIR PREPARATIONS AND DOSES.—PRESCRIPTIONS.—RECEIPTS.

TINCTURES.

Tinctures are spirituous solutions of such of the principles of animal or vegetable substances as are soluble in rectified or in proof spirit. Rectified spirit is the proper menstruum of the resins, essential oils, saccharine matter, etc., of vegetables, and generally of those parts of animal bodies in which their peculiar smell and taste reside. Proof spirit likewise takes upon these partially, and is, besides, the proper menstruum for gummy principles. Tinctures are chiefly used in cases where stimulants are indicated, on account of the spirit which they contain. Tinctures are usually prepared by macerating the materials for forty-eight hours (some substances require seven days) in three-fourths of the menstruum ordered, in a close vessel, with occasional agitation; then decant the liquid, pack carefully the solid ingredients in a percolator, pour over them the decanted liquid, add the remainder of the spirit, remove and press the ingredients, and add, if necessary, sufficient spirit to make up the quantity.

DECOCTIONS.

The extraction of the soluble portions of plants by boiling. It is generally performed in a covered vessel. When the menstruum is valuable, as alcohol, a retort and a receiver, or the common still, may be used to condense and preserve the vapors that would otherwise escape. It is more powerful than infusion by reason of the increased temperature, and is employed to extract the mucilaginous parts of

plants, their bitterness, and other vegetable principles. It is not suitable, however, where the virtues of the plants depend wholly or in part on the essential oil or volatile principles which they contain.

INFUSIONS.

Infusion is a solution of some of the principles of vegetables, generally in water, but sometimes in other vehicles. Either hot or cold water may be employed, according to the particular infusion required. The digestion, however, must be longer when cold water is used. The vegetable substances may be either fresh or dried; when fresh, they must be cut in pieces, and when dry, bruised or coarsely powdered. Water is then poured on the substance employed, and allowed to stand in a covered vessel for a space of time varying with the nature of the vegetable matter. It is afterwards strained, and is then fit for use. Infusions are liable to spoil soon, especially when made with warm water, or if the substance be of a fermentable nature. To assist in keeping the infusion, or to increase its powers, alcohol is sometimes added after straining. Wholesale chemists are now accustomed to prepare concentrated infusions for the use of general practitioners. These can be diluted to the ordinary strength at the time of using them, and not only possess the advantage of keeping better, but save much trouble and loss of time.

PILLS.

This is a very convenient form of administering medicines, especially such as are very active in their properties and nauseous in flavor, as they can be swallowed without tasting. To prepare them it is only necessary to rub down the ingredients into a finely pulverized state, and add sufficient of some tenacious liquid to form a homogeneous mass, which can be easily divided and rolled into pills. To effect this a pestle and mortar is required; it should be of metal, as the mass generally requires beating to assimilate the ingredients properly; a short, stout spatula, or palette knife, and a slab of marble or glazed porcelain—if marked with divisions it is so much the more convenient, as pill machines are expensive and scarcely necessary in domestic practice.

The machines are generally made to cut and roll 24 pills, and the the sizes for which they are intended range from 3 to 5 grains; the former is the most convenient for swallowing, and it is better to take two of such than one large pill, which is likely to stick in the throat and to remain for a long time undissolved when it is down. Gener-

ally speaking, a sufficient quantity of active ingredients is required to make them of moderate size; but sometimes it is desirable to administer very powerful medicines, such as calomel, morphia, etc., in this way, and then it is usual to give bulk and consistence by the addition of such comparatively inert substances as bread crumb, castile soap, soft extract of liquorice, or conserve of roses. When bread is used it should be quite stale, so that it will rub down into a powder and amalgamate with the other ingredients. Pills made with bread and mucilage are apt to become very hard, and are therefore only fit for present use. Pills made with molasses or conserve remain soft as long as any. If hard soap is used, it should be scraped into the mortar first, and rubbed into a powder. Soft soap is better than hard, but glycerine—better still—has latterly been much employed. For pill-mass intended to be kept for a time, a few drops of olive or other fixed oil is sometimes added to prevent the mass hardening. If resinous gums, such as scammony, enter into the composition of the pills, the necessary moisture may be spirit of wine, which, by dissolving a portion of the resin, will give cohesion to the compound substance; but this is apt to get hard after a while. It is best to keep pills in stoppered bottles; if much exposed to the air they soon harden, and become to a certain extent inert, because insoluble. If kept in pots they should be closely covered; boxes are the worst possible receptacles for them. Some persons can take pills very easily, others only with great difficulty, and some few not at all. The best method is to hold the head back, take the pill between the finger and thumb, and passing these as far into the throat as possible, drop it into the pharynx, swallowing immediately some water or other liquid to carry it down. As a rule, the best time for taking pills is bedtime; when the body is quiescent their operation is less interfered with. Of course there are many cases which require their administration at all times and seasons. Owing to their compactness and portability there is no form of medical preparation so convenient as this.

POWDERS.

Powder is a very common form in which medicines are administered, particularly to children. Some medicines are best given in the form of powder, in order that their distinctive properties may be most easily brought out. Powders may be either simple or compound, consisting of one substance or of several. The several ingredients should be very finely powdered and well mixed. In general,

powders should be given in some thick substance, as honey, molasses, or gum.

ANTI-ACIDS, OR ABSORBENTS.

Anti-acids are medicines intended to correct acidity of the stomach and bowels; their action is purely chemical; they combine with the acid and neutralize it, but do nothing to prevent its regeneration; therefore they are simply palliatives, and cannot be depended upon for restoring the tone of the impaired organs, whose powers a long continuance of them is apt to enfeeble. Ammonia, chalk, lime, and all cretaceous matter, magnesia, and the alkalines potash and soda are the chief anti-acids or *absorbents* These are many forms of preparations, but the action is pretty uniform. Ammonia in its various combinations, where acidity in the stomach exists with flatulency and tendency to *cramp* or *colic*. Magnesia and the preparations of chalk or lime are best when acid is present in the bowels, causing loose evacuations, griping pains, etc., and this because they pass down the alimentary canal and into the seat of mischief without losing their absorbent powers. Where an alkaline test shows acidity in the urine, preparations of potash are most suitable for administration, as they are more readily soluble than soda, which, in combination with ginger, may be recommended for the unpleasant sensation in the chest and throat called *heartburn*, that being the result of excessive acidity.

(THE DOSES ARE FOR ADULTS.)

In most cases, emetics and aperients are given previous to their being taken. They are:

Ammonia, carbonate, in doses from	5 grains to 1 scruple.
Ammonia, liquor of	10 to 20 drops.
Ammonia, aromatic spirit of	20 to 30 drops.
Lime water	2 ounces to half a pint.
Magnesia, calcined	20 to 40 grains.
Magnesia, carbonate of	half to 2 drachms.
Potass, carbonate of	10 grains to half a drachm.
Potass, solution of	10 drops to half a drachm.
Soda, carbonate of	10 grains to half a drachm.
Soda water	half a pint.

ALTERATIVES.

Alteratives are a class of medicines whose object it is to effect a gradual change in the state and condition of the functions, secretions, etc., and establish the healthy habit which has somehow become deranged.

An alterative medicine, then, is supposed to be one which produces a new effect, and thus *alters* or diverts the attention of the system, if we may so speak, from the original disease; it is generally directed, or intended to act upon the immediate seat of mischief, as the liver, the blood, etc. Small doses and frequent is the general rule with regard to the administration of alteratives, and in this way some of our most active and even poisonous drugs are employed to produce very beneficial results. It is properly through the medium of the excretions and secretions that alteratives act; they are taken from all classes of medicines, mineral as well as vegetable.

ANODYNES.

Anodynes are medicines which assuage pain; generally *opiates*, or *narcotics*. These medicines act by diminishing sensibility and inducing sleep, or a state of stupor, which is near akin to it.

PILLS.

Purified opium	4 grains.
Extract of henbane	15 grains.
Extract of lettuce	10 grains.

Mix. Make into 6 pills, take one at bed time for long-continued cough

PILLS OF MORPHIA.

Sulphate of morphia	3 grains.
Conserve of roses	sufficient to mix.

Dose, one pill when necessary.

CAMPHOR PILLS.

Camphor	half a drachm.
Gum and alcohol	sufficient to mix.

Divide into 15 pills, dose 1 every two hours. Excellent to allay nervous irritability, and to act on the skin.

HENBANE PILLS.

Extract of henbane	half a scruple.

Powdered liquorice root sufficient to make 10 pills. Give one or two to procure sleep, ease pain, and allay irritation arising from a tickling cough.

MIXTURES

To quiet the nervous system and allay irritability,

Bromide of potassium	1 drachm.
Syrup of orange peel	3 ounces.
Water	3 ounces.

Mix. Dose 1 to 3 tablespoonfuls.

HENBANE DRAUGHT.

Tincture of henbane	1 drachm.
Camphor water	2 ounces.

Mix. To be taken at once, at bed time, repeated in two hours if the patient does not sleep.

FOXGLOVE MIXTURE.

Tincture of purple foxglove	3 drachms.
Camphor water	6 ounces.
Orange syrup	half ounce
Prussic acid	6 drops.

Mix. Dose, two tablespoonfuls two or three times a day. A good remedy for nervous palpitations, but must be used with great care.

LETTUCE MIXTURE.

Tincture of lettuce	6 drachms.
Distilled water	6 drachms.
Water of cherry laurel	2 drachms.
Simple syrup	1½ ounce.

Mix. Dose, a tablespoonful morning and evening.

MIXTURE FOR INFLUENZA, COLD, COUGH, BRONCHITIS, ETC.

Camphor water	5 ounces.
Sweet spirit of nitre	2 drachms
Tincture of opium	4 drops.
Syrup of poppies	4 drachms.

Mix, and take two tablespoonfuls every four hours.

CLYSTER.

Tincture of opium	1 drachm.
Infusion of linseed	6 ounces. Mix.

POULTICE.

Dried hemlock leaves	2 ounces.
Crumb of bread	6 ounces.
Water	half a pint.

Boil together; used in foul ulcers, etc.

DRAUGHT.

Tincture of opium	10 drops.
Syrup of poppies	2 drachms.
Spirit of cinnamon	1 drachm.
Water	1 ounce.

This is taken on the approach of the warm stage in bronchitis, ague, and intermittent fevers.

CATHARTICS, APERIENTS, LAXATIVES, PURGATIVES.

These are different terms for purging medicines. A laxative or aperient only acts as a mild purge in emptying the bowels, whereas a purgative not only so acts, but affects the whole system; and, when very violent, it is denominated a cathartic or drastic. Examples of excellent combinations of these medicines:

CATHARTIC PILLS.

Compound extract of colocynth	1 drachm.
Extract of henbane	6 grains.
Oil of nutmeg	4 drops.

Well mix together, and divide into twelve pills; take two every two or three hours till effective.

APERIENT DRAUGHT.

Epsom salts	3 drachms.
Spearmint water	3 ounces.
Antimonial wine	20 drops.

Mix, and take for a dose early in the morning.

LAXATIVE MIXTURE.

Sulphate of magnesia, or Epsom salts	half an ounce.
Sulphate of iron	5 grains.
Camphor mixture	3 ounces.

Two or three tablespoonfuls twice a day.

FOR THE PAINTER'S COLIC.

Castor oil	half an ounce.
Yolk of egg	sufficient quantity.

Beat up and then add,

Syrup of poppies	2 drachms.
Tincture of opium	5 drops.
Distilled water	8 ounces.

Make a draught to be taken ever three or four hours.

ANTISEPTICS.

These prevent putrefaction. They are the tonics, as Peruvian bark, myrrh, alum, camomile, etc., which can be generally used for those of relaxed habits. The refrigerating, as acids, given to the young and plethoric. The stimulating, as wine and alcohol, for the old and debilitated. The anti-spasmodic, as assafœtida and camphor, for the irritable and hysterical.

ELECTUARY IN SCURVY.

Bark, powdered	half an ounce.
Aromatic confection	half an ounce.
Syrup of oranges	sufficient quantity.

Mix, take the size of a nutmeg every quarter of an hour, in a glass of Seidlitz or soda water.

SCURVY IN THE GUMS.

Infusion of roses	6 drachms.
Alum	half a drachm.
Honey	1 drachm.

Mix and make into a gargle.

GARGLE IN PUTRID SORE THROAT.

Decoction of bark	6 ounces.
Muriatic acid	half a drachm.
Tincture of orange peel	5 drachms.
Tincture of myrrh	1 drachm. Mix.

ANOTHER.

Decoction of bark	6 ounces.
Tincture of myrrh	2 ounces.
Diluted sulphuric acid	half a drachm.

Mix for a gargle.

ANTI-SPASMODICS.

Spasms are involuntary contractions of the mucles; when from irritation, narcotics are best; as opium, camphor, and ether; when from debility, tonics; as zinc, mercury, and Peruvian bark. But the so-called true anti-spasmodics are musk, castor, ammonia, assafœtida, valerian, etc.

ANTI-HYSTERIC MIXTURE.

Take assafœtida, 1 drachm; and gradually mix well with

Peppermint water	half a pint.
Aromatic spirit of ammonia, or sal volatile	2 drachms.
Tincture of castor	3 drachms.
Sulphuric ether, compound of	1 drachm.

Strain and take a tablespoonful every two hours.

MIXTURE IN CONVULSIVE OR WHOOPING COUGH.

Tincture of opium	6 drops.
Ipecauanha wine	1 drachm.
Simple syrup	3 drachms.
Carbonate of soda	24 grains.
Water	1 ounce.

This mixture may be given in whooping cough, the sixth part every six hours for a child five or six years old.

DRAUGHT IN PALIPITATION OF THE HEART, WITH GREAT NERVOUS IRRITABILITY.

Tincture of foxglove	10 drops.
Camphor mixture	1 ounce.
Tincture of columba	1 drachm.

To be taken twice a day.

DRAUGHT IN HYSTERIA AND WINDY COLIC.

Camphor mixture	1 ounce.
Fœtid spirit of ammonia	1 drachm.

AROMATICS.

Aromatic medicines are useful to ally irritation of the stomach and bowels, and to remove flatulency.

AROMATIC STOMACH PILLS.

Powdered alloes	6 drachms.
Gum guiacum	4 "
Aromatic confection	2 "
Balsam of Peru	2 "
Syrup of ginger	sufficient.

Mix. Make into 200 pills. Dose, 1 twice a day.

POWDER

for expelling wind and alleviating spasms.

Cinnamon	1 ounce.
Cardamon seeds	1 "
Ginger	1 "
Cayenne	2 "

Mix. Dose, a teasponful in a little hot water sweetened.

AROMATIC SPIRITS OF ETHER,

for spasms, flatulency, asthma, hysteria.

Bruised cinnamon	6 drachms.
Powdered cardamon seeds	3 "
Cayenne	1 "
Sliced ginger	1 "
Spirit of sulphuric ether	1 quart.

Digest for 14 days, then distil. Dose, 30 drops to teaspoonful.

ASTRINGENTS.

These, when applied to the body, make the solids denser and firmer; they diminish excessive discharges, and often lessen morbid sensibility or irritation, and may thus restore strength.

ASTRINGENT OINTMENT.

Galls in powder	1 drachm.
Hog's lard, prepared	1 ounce.

Smear on the part in piles, etc.

DRAUGHT FOR UTERINE AND OTHER BLEEDINGS.

Muriated tincture of iron	10 drops.
Water	1 ounce.

Take every three hours.

Alum whey, made by adding two drachms of pounded alum to a pint of hot milk, and a wine glassful taken every two or three hours, is a safe and powerful astringent given in internal bleedings, female discharges, etc.

PILLS FOR SPITTING OF BLOOD, INTERNAL BLEEDINGS, ETC.

Acetate of lead	3 grains.
Purified opium	1 grain.
Extract of hemlock	10 grains.

Make three pills, one to be taken twice a day, drink after them vinegar and water.

INEJCTIONS FOR WHITES AND DISCHARGES IN FEMALES WHEN THE PARTS ARE IRRITABLE.

Oak bark, bruised	6 drachms.
Distilled water	10 ounces.

Boil ten minutes, then use four ounces mixed with four ounces of linseed infusion.

CARMINATIVES.

These medicinese ease pain and dispel wind.

DRAUGHT FOR FLATULENCY AND INDIGESTION.

Rind of Seville oranges	3 drachms.
Fresh lemon peel	2 drachms.
Ginger, in powder	half a drachm.
Boiling water	8 ounces.

Infuse two hours and strain; then take

Of the above	half an ounce.
Spirit of peppermint	half a drachm.
Spirit of lavender	half a drachm.

This draught to be taken three times a day.

ANTI-FLATULENT MIXTURE.

Oil of anise seeds	10 drops.
Refined sugar	1 drachm.

Beat up together, and add

Tincture of ginger	2 drachms.
Peppermint water	6 ounces.

Mix. Take three tablespoonfuls as often as required.

FOR WIND IN THE INTESINES,

Particularly the colon, which distends them.

Assafœtida	6 grains.
Rhubarb	4 grains.
Oil of anise seeds	5 drops.

Make two pills, and take every five or six hours.

CERATES.

Cerates are for the purpose of covering and keeping clean ulcers, wounds, burns, etc. They differ from ointments by having more wax in them.

CALAMINE CERATES.

Prepared calamine	4 ounces.
Yellow wax	4 ounces.
Olive oil	8 ounces.

Shred the wax, pour on the oil, let them melt over a slow fire; when sufficiently cool stir in the powdered calamine. This is applied to ulcers and wounds where the skin is broken; to burns and scalds after the pain and violence of the inflammation have ceased. With half a drachm of the soft extract of opium, to an ounce of the cerate, it is employed to gently smear the eyelids in ophthalmia tarsi. When a teaspoonful of the Goulard lotion is mixed with this cerate, it forms the common application of many eminent physicians to scalds and burns.

COMPOUND CERATE OF LEAD

Acetate of lead	2 ounces.
Yellow wax	4 ounces.
Olive oil	9 ounces.
Camphor	half an ounce.

With a little oil the camphor is rubbed down. The remainder of the oil and wax gently melted near a fire, and the lead stirred in; when nearly cold, the oil with the camphor is added, and stirred till cold. This is used in burns and scalds, and to prevent that constant flowing of tears in aged people.

CLYSTERS.

This mode of administering purgatives in many instances is far superior to any other, as it does not unnecessarily stimulate the whole of the bowels, and render them feeble and unhealthy, so as to require constant attention; besides, in some states of the body, the stomach will not retain the requisite medicine. There are diseases, such as lockjaw, some forms of insanity, etc., in which nourishment has in this manner to be conveyed to the body.

FOR DYSENTERY, VIOLENT PURGING, PAINS IN THE LOWER BOWELS, ETC.

Starch	8 ounces or a pint
Tincture of opium	40 to 60 drops

LAXATIVE—APERIENT.

Epsom salts	1 ounce.
Thin gruel, warm	1 pint.
Fresh butter, or olive oil	1 ounce.

ASTRINGENT IN PILES, ETC.

Galls, powdered	half an ounce.
Distilled water	1½ pint.

Boil down to a pint and strain; administer warm.

IN STONE; STOPPAGE OF URINE; IRRITABILITY OF BLADDER; LOCKJAW, ETC.

Turpentine, spirit of	half an ounce.
Infusion of linseed	one to two pints.
The yolk of an egg	mix together.

Administer warm.

IN SPASMODIC COMPLAINTS.

Tincture of assafœtida	half an ounce.
Tincture of opium	20 to 40 drops.
Thin gruel	one to two pints.

A COMPOUND GIVEN IN STUPOR, ETC., FROM INJURIES TO THE HEAD OR SPINE.

Extract of colocynth	1 scruple to ½ drachm.
Boiling water	one pint.
Common salt	half an ounce.

NUITRITIVE, TO BE REPEATED EVERY SIX HOURS.

Milk, mutton, broth, starch, etc.	6 ounces.
Warm water	4 ounces.

DEMULCENTS.

Medicines which have softening and soothing properties; rendering them especially suitable for obviating the action of acrid and

stimulant matters, not so much by correcting or changing their nature, as by involving them or the delicate tissue exposed to their action, in a mild and viscid fluid. Their chief employment is in catarrh, diarrhœa, gonorrhœa, dysentery, gravel stone, etc. They may generally be divided into two divisions, mucilages, and expressed oils; in the first, we have almonds, coltsfoot, Arabic and several other gums, linseeds, mallows, liquorice-root, swinewort, barley, oats, and wheat, sago and starch. Among the latter are most European and many foreign oils, fat, and other animal substances, including hartshorn shavings, gelatine and isinglass, spermaceti and wax. The following is a pleasant and efficacious demulcent draught, suitable where there is fever: Almond mixture 1 ounce, carbonate of potash 10 grains, syrup of poppies 1 drachm; mix and add a tablespoonful of lemon juice or 10 grains of citric acid, and drink while in a state of effervescence. As a form for a cough mixture, easily prepared, take oil of almonds 6 drachms, liquor of potash 1 drachm, shake well and make up to 8 ounces with rose or plain water; sweeten with syrup of poppies and add paragoric elixir, 2 drachms, or tincture of squills, if required to be more expectorant. The best demulcent enema is made by dissolving 6 drachms of starch in a half-a-pint of hot water, add 1 drachm of tincture of opium is necessary.

DIAPHORETICS.

These are medicines that cause perspiration; the action being increased by being in bed, remaining in the warm atmosphere of a room, or placing the feet in hot water.

DIAPHORETIC POWDER.

Compound powder of ipecacuanha . . .	10 grains.
Powder of antimony	5 grains.

Take at bed time, in some warm liquid or gruel.

POWDER.

Ipecacuanha powder	2 grains.
Purified opium	half a grain.
Nitrate of potass or saltpetre	10 grains.

Take at bed time in a severe attack of influenza or bronchitis, in gruel.

TONIC AND DIAPHORETIC MIXTURE, FOR RHEUMATISM AND LUMBAGO.

Guaiacum, powder of.	2 drachms.
Gum arabic	2 drachms.

Pound well together, then add,

Tincture of opium	30 drops.
Tincture of bark	2 drachms.
Comphor water	8 ounces.

A wine-glassful twice a day.

IN CONTINUED RHEUMATISM, ETC.

Gum guaiacum, in powder	5 grains.
Compound powder of ipecacuanha, or Dover's powder	10 grains.
Honey a sufficient quantity to make a bolus	

Take at bed time.

DRAUGHT TO PRODUCE PERSPIRATION IN COLDS, INFLUENZA, ETC.

Camphor mixture	1 ounce.
Liquid acetate of ammonia	half a drachm.
Antimony wine	20 drops.
Paragoric elixir	2 drachms.

To be taken at bed time.

SPIRIT OF MINDERERUS.

Solution of Acetate of Ammonia.

Good pure vinegar,	6 ounces.
Muriate of ammonia (*sal ammoniac*)	sufficient quantity

Drop the powder very slowly into the vinegar, in an open vessel, and continue adding, until the effervescence becomes scarcely perceptible.

This is an excellent diaphoretic in fevers. Care must be taken to stop adding the powder before the effervescence has entirely ceased; for the decomposition of the salt goes on slowly towards the conclusion of the process, and it is better that the acid in the mixture should be in very slight excess. If the solution be kept in a vial, it should be left open for a few hours before corking. Dose, for an adult, a tablespoonful or two, taken every two or three fours.

DIURETICS.

Medicines which augment the urinary discharge; this effect will be produced by any substance which stimulates the secreting vessels of the kidneys. All the saline diuretics act in this way; they pass into the circulation, and appear to exert a specific action upon these vessels. The free drinking of mild diluents will also have this effect, while the application of external heat to the body will exert a contrary influence by exciting perspiration, which is an increased cutaneous secretion. Diuretics are useful as adjuncts chiefly; their action alone is not to be depended on for the cure of disease; they are merely palliatives. Thus, in dropsy, in which they are chiefly employed, if perfectly successful, they do but remove for a time a portion of the effusive fluid, which quickly collects again; they are sometimes useful in calculous affections, and also in gonorrhœa, and they have a tendency to check profuse perspiration, and diminish plethora; but their frequent and constant use is very weakening to the system.

DIURETIC PILLS FOR STONE, GRAVEL, ETC.

Carbonate of soda	2 drachms.
Castil soap	1½ "
Oil of juniper	30 drops.
Syrup of ginger	sufficient.

Mix. Make 30 pills. Dose, 2 three times a day.

DROPSY PILLS.

Blue pills	2 drachms.
Powdered squills	4 scruples.
" foxglove	1 drachm.
Syrup of ginger	sufficient.

Make into 64 pills. Dose, 1 pill three times a day.

INFUSION FOR DROPSY.

Bruised juniper berries	2 ounces.
Bruised anise seeds	2 drachms.
Boiling water	1 pint.

Let it stand for three hours, then strain. Take a teacupful often.

DRAUGHT FOR DROPSY.

Acetate of potass	half a drachm.
Oxymel of squills	1 drachm.
Compound spirit of juniper	half a drachm.
Nitric spirit of ether	20 drops.
Water, or camphor water	2 ounces.

Take every morning

DIURETIC, AND STIMULATING DRAUGHT.

Carbonate of potass	10 grains.
Compound infusion of gentian	8 drachms.
Compound spirit of ether	half a drachm.
Tincture of cinnamon	1 drachm.

Take as occasion may require.

DILUENTS.

Diluents are liquids administered to increase the fluidity of the blood, and render certain of the secretions and excretions less viscid. They likewise promote the operation of more active medicines, especially aperients and diuretics. Water is the simplest and frequently the best diluent; or it may be made more agreeable by the addition of acid or other substances, or in the form of toast and water. Gruel, infusion of tea, mutton and chicken broth, beef-tea, and such-like, come under this designation. Diluents are of great use in allaying the thirst of patients affected with fever or other inflammatory complains, and are often very useful in subduing the more violent symptoms of the disease, and relieving the system by means of perspiration. The excessive use of fluids at meals, however, is hurtful to digestion.

EMBROCATIONS.

Embrocation is a term originally applied to those external applications used for softening or dissipating swellings. The word has, however, extended beyond its primary meaning, and is applied to oleaginous and spirituous compounds which incite the surface of the skin to increased action, and produce all the effects of counter-irritants, or which, by their influence on the extremities of the nerves, assist in resolving spasm; thus acting as anti-spasmodics.

For inflammation of the skin, bruises, swelling of the glands and contusions, where blood vessels have been ruptured under the skin, a pint of good vinegar and half a pint of strong spirits is found very beneficial. Alum added to it is good for chilblains.

FOR SPRAINS AND BRUISES,

Especially where the parts are discolored with blood underneath the skin, and in rheumatic swelling of the joints.

Vinegar	1 pint.
Distilled water	half a pint.
Rectified spirits	1½ "
Camphor	2 ounces.

Mix the vinegar and water, dissolve the camphor in the spirit of wine, and then put them all together.

FOR SPRAINS, BRUISES AND OTHER INJURIES,

When the skin is not broken.

Carbonate of ammonia	2 ounces.
Vinegar	2 pints.
Proof spirit	3 "

Mix the ammonia with the vinegar; when the effervescence ceases, add the spirit. In inflammation of the joints of some standing, this is mixed with linseed meal, and applied as a poultice twice a day.

FOR LUMBAGO, GOUTY PAINS, AND RHEUMATISM,

The following is often highly beneficial:

Soap liniment	2 ounces.
Spirit of camphor	1 ounce.
Oil of thyme	2 drachms.
Tincture of opium	1 drachm.

Mix and rub well over the part affected. A piece of lint dipped in this, and put in a hollow tooth, frequently arrests aching.

EMETICS.

Emetics are medicines which influence the stomach in a peculiar manner, so as to invert its action and produce vomiting. This effect is caused not by the quantity of the matter introduced, but by the nature of the emetic itself. Emetics are useful when it is found necessary to relieve the stomach of some hurtful or indigestible sub-

stances. Lives that have been endangered either by poisons or excess of food have frequently been saved by means of emetics. In cases of fever, emetics are frequently used; it is supposed that the copious secretion which they produce from the glands of the stomach and intestines has a direct curative action. They tend to render the disease milder, and should be administered at as early a stage of the disease as possible. They may be advantageously repeated even at a more advanced stage, as they induce sleep and a moist state of the skin. Emetics, however, should always be given with great caution, since, in cases of depression of the system, their action is to produce nausea, by which the vital power is always diminished. The emetics generally used consist of preparations of antimony, zinc, and copper. Squills, lobelia, ipecacuanha, and other substances, are also employed. Mustard and water, diluted, is one of the mildest and most generally used emetics. Emetics should never be administered to a patient who is disposed to apoplexy, or has a tendency of blood to the head, or where he is liable to hemorrhage from any organ, or is subject to hernia. During pregnancy, also, emetics must be avoided.

AN EMETIC DRAUGHT.

Tartarized antimony	1 grain.
Ipecacuanha wine	2 drachms.
Water	1½ ounce.

Half to be taken, and repeated in twenty minutes, if sickness be not induced.

MIXTURE.

Ipecacuanha wine	half an ounce.
Tartarized antimony	1 grain.
Tincture of squills	half a drachm.
Distilled water	7 ounces.

Take four tablespoonfuls; if not effective, take two tablespoonfuls every half hour afterwards.

EMMENAGOGUES.

Emmenagogues are medicines to promote the natural functions peculiar to females.

MIXTURE FOR THE WEAK AND PALE, IN CASES OF RETENTION.

Myrrh, in powder	2 drachms.
Sulphate of iron	50 grains.
Carbonate of potass	1 drachm.
Spirit of nutmeg	1 ounce.
Water	18 ounces.
Sugar	2 drachms.

Pound the myrrh with the carbonate of potass and spirit of nutmeg perfectly; then add gradually the water, after which the sulphate of iron and sugar. In retention, take two tablespoonfuls every fourth or sixth hour.

EMMENAGOGUES PILL.

Aloes pill, with myrrh	1 drachm.
Compound iron pill	1 drachm.
Carbonate of soda	1 scruple.

Make into thirty pills; take two twice a day.

EXPECTORANTS.

Expectorants are for the purpose of relieving the throat, lungs, and air passages from an accumulation of mucus.

POWDER.

Myrrh, in powder	16 grains.
Ipecacuanha, in powder	6 grains.
Nitrate of potass	10 grains.

Divide into four; take one every four hours.

DRAUGHT.

Syrup of squills	1 drachm.
Ipecacuanha wine	10 drops.
Carbonate of potass	10 grains.

Take with a desert spoonful of lemon juice effervescing three times a day.

MIXTURE.

Ipecacuanha wine	1 drachm.
Sweet spirit of nitre	2 drachms.
Syrup of squills	6 drachms.
Camphor water	3 ounces.

Mix: a tablespoonful when the cough is troublesome.

LINIMENTS.

Liniments are for the purpose of subduing swellings, or to act as counter-irritants on the skin, and thus prevent inflammation sinking deeper into the part. Rubbing gently with the hand or hair brush often answers the purpose of dispersing swelling. When a joint has to be rubbed, the hand sometimes hurts the skin, and cannot well be continued more than a quarter of an hour, in which case it is usual to lay on the palm a little oil or lard.

Opodeldoc.—This is more commonly known by the name of *soap liniment*—to make which, put an ounce of camphor into half a pint of strong, pure spirits, slice very thin three ounces of hard white soap, and put it also into the bottle; shake it several times a day, until the whole is perfectly dissolved, when it is fit for use.

Mustard Liniment.—Shake well for a few days an ounce of fresh-ground mustard in a pint of spirits of turpentine; when well settled, carefully pour off the liquid from the mustard. Cover the hand when applying it, and only continue until the part smarts. Useful in chilblains, lumbago, etc.

Hartshorn and oil is a common application, especially in stiff necks and slight rheumatism; the proportions are one-third hartshorn to two-thirds of oil.

Chilblain Liniment.—Camphor, 10 grains; turpentine, 2 drachms; soap liniment, 10 drachms.

LOTIONS.

Lotions are employed for different purposes, to cool and soothe the parts, to dry and absorb, or to irritate and stimulate.

Cold water is very common now in medical practice as an evaporating wash. A single piece of linen is laid over the part, which is exposed to the air, and as it dries more water is dropped on from a sponge; if used to ease severe pain, add a teaspoonful of laudanum to a pint of water.

Spirit Lotion.—Rectified spirit of wine, 1 ounce; water, 15 ounces. Should this spirit not be at hand, use a quartern of good drinking spirits; used as an evaporating wash in inflammations and bruises.

Lead Lotion, or Goulard Water.—Sugar of lead, 1 drachm; diluted acetic acid, half an ounce; spirits of wine, half an ounce; water, 10 ounces. When wanted as a lotion for the eyes, the proportions are two grains of the sugar of lead to two tablespoonfuls of water.

Zinc Lotion.—Sulphate of zinc, one drachm; water, one pint. This is a drying wash used in cracking of the skin, and after burns and scalds, to heal them and arrest the discharge.

Lotion of Alum.—Add half a drachm of alum to one pint of water; an excellent lotion in inflammation of the eyes.

Lime Water is also employed as a drying wash. Pour nearly a pint of water gradually on to a pound of unslaked lime, stir well, let it stand until the lime has fallen to the bottom, then pour the water off, and it is ready for use. Taken internally in indigestion, mixed with milk; as an astringent in dysentery and diarrhœa; and in children's bowel complaints.

OINTMENTS.

Ointments are used for the purpose of dressing sores, and to protect them from the air; the most simple serve this purpose best. They are made by melting the ingredients together in a pipkin by the side of the fire; be very careful not to let them boil.

Ointment, Common.—Melt together one part of yellow wax and two parts of hog's lard; white wax is sometimes preferred, and olive oil may sometimes be substituted for the hard.

Tartar Emetic Ointment.—Tartar emetic, 1 drachm; lard, one ounce; mix. Applied instead of blisters to the chest, in inflammation of lungs, etc.

Spermaceti Ointment.—Melt, as before, a quarter of an ounce of white wax, three-quarters of an ounce of spermaceti, and three ounces of olive oil. Use as a dressing, after blistering.

Ointment for Piles.—Powdered galls, 2 drachms; sugar of lead, 20 grains; lard, 2 ounces; rub them on the bottom of a plate well together.

Elder-flower Ointment.—Elder flowers, 2 lbs.; lard, 2 lbs.; simmer till crisp, and strain. Used as a cooling ointment to sunburns, etc.

Peruvian Balsam Ointment.—Peruvian balsam, 1 drachm; hog's lard, one ounce; mix. An excellent healing ointment for sore breasts, excoriations, etc.

Red Ppecipitate Ointment.—Red precipitate of mercury, 1 drachm; common

ointment, 1 ounce: mix on the bottom of a plate. Useful as a stimulating dressing to wounds and sores, as is also the following:

YELLOW BASILICON.—Melt together yellow wax, 2 ounces; white resin, 5 ounces; hog's lard, 7 ounces; stir well while melting.

POULTICES.

On the utility of poultices in cases where the application of warmth and moisture is required we need not here insist, for all who have had anything to do with the treatment of disease are fully aware of this. Very often, however, they fail of producing the expected good effects, because they are not properly prepared or applied; we therefore deem it well to give directions for the preparation of those most commonly employed.

BREAD AND WATER POULTICE.—Put into a basin a sufficient quantity of crumbs, and cover it with boiling water; let it stand with a plate over it to keep the steam for a minute or two, then draw off the water, and turn out the contents of the basin into a piece of folded linen, sufficiently large to cover the affected part; to which, having first spread over it a little lard, to prevent its sticking when dry, apply the poultice next the skin, keeping it close by means of a bandage or wrapper of some kind. If not required warm, merely soak sufficient bread in cold water, and apply it, when saturated, on a fold of linen, as directed above.

LINSEED MEAL POULTICE.—Pour some boiling water into a basin, and add gradually the meal, stirring with a stick until the mixture becomes quite a stiff paste; then spread it an inch thick on folded linen, and apply.

MUSTARD POULTICE.—To make this take as much as may be required, in equal proportions, of best of flour mustard and linseed meal, or bread crumbs; put them into a basin previously warmed, and add gradually as much boiling water as may be necessary; grease, and apply as above directed, or simply mix the mustard with hot water, spread the paste on linen, place over it a piece of muslin, and place it next the skin; if it is desirable to make it more stimulating, some scraped horseradish will have this effect. The length of time that a mustard poultice may remain on must be regulated in great measure by the feelings of the patient.

YEAST POULTICE.—Add to a half a pound of linseed meal, in a basin, a quarter of a pint each of beer yeast and water heated, mix gradually with a spoon or stick; spread on linen, and apply. It should be renewed every six or eight hours, as should the linseed meal poultice.

CHARCOAL POULTICE.—Add to a common bread and water poultice, while quite hot, about an equal quantity of linseed meal and charcoal; mix, spread on linen, and apply. Useful for gangrenous and fœtid sores.

SALT AND WATER POULTICE is made like one of bread and water, by merely dissolving a tablespoonful of common salt in the water previous to mixing; this is recommended for chronic abscesses.

Almost any soft substance that will retain heat and moisture may be used to form a poultice, which should be perfectly smooth, and free from lumps or hardness; recently a preparation called *spongia*

piline has been employed; this has merely to be soaked in a hot liquid, drained out, and laid on with oiled skin, or some other waterproof material over it; indeed, all poultices should be so covered, the heat and moisture is thus retained longer than they otherwise can be.

Medicated Poultices are frequently prepared by using a decoction or infusion of the medicinal agent, such as hemlock, or poppy, instead of plain water, with bread or oatmeal. Take of dried hemlock leaves, 1 ounce; water, a pound and-a-half; boil down to a pound, and add of powdered hemlock leaves sufficient to make a poultice. This is often used for lulling pain in cancerous sores, etc.

Arrow-root Poultice is recommended as a soothing application for irritable sores, etc. Hops, camomiles, scraped carrot and turnip, and a variety of other substances, are also used for this purpose, but it is doubtful whether they possess any advantages over those more commonly employed.

Poulticing of wounds and abscesses is sometimes carried too far Up to a certain point it is good; but when the discharge becomes thin and serous, and increases rather than diminishes, and the healing process appears to stop, it is time to stay this kind of application, and substitute water dressing, which often gives a more healthy character to the affected part.

TONICS.

Tonics are medicines employed to improve the tone or strength of the system by acting on the muscular fibres through the nerves. Tonics are stimulants of a certain kind, but differ from ordinary stimulants in the permanence of their effects. They are usually prescribed in small doses frequently repeated, and are persevered in for some time. It is generally necessary to begin with a mild tonic, before taking one more powerful. If carried to excess or too long-continued, tonics act as irritants, weaken the system, or induce disease. Among the tonics in more common use may be mentioned cinchona, quassia, gentian, chiretta, cusparia, calumba, cascarilla, strychnine; the various preparations of iron, bismuth, copper, zinc, arsenic; hydrochloric, nitric, and phosphoric acids.

PILLS, TONIC AND PURGATIVE.

Sulphate of iron	10 grains.
Extract of gentian	half a drachm.
Aloes	1 drachm.

Mix. Divide into thirty pills. Take two daily, an hour before dinner.

IN INTERMITTENT FEVERS.

Peruvian bark	half an ounce.
Sulphate of magnesia (Epsom salts)	3 drachms.

Mix well. Divide into four. Take one every other hour between the paroxysms, dissolved in water.

A mixture given in hysterics, tic douloureux, debility after fever, etc.

Infusion of quassia or cascarilla	6 ounces.
Tincture of bark	half an ounce.
Aromatic confection	1 scruple.
Aromatic spirit of ammonia	1 drachm.

Two tablespoonfuls twice a day.

Infusion of quassia ; of cascarilla, or of camomiles. A wine glassful taken two or three times a day.

TONIC MIXTURE FOR NERVOUS DISEASES.

Pyrophosphate of iron	1 drachm.
Syrup	2 ounces.
Cinnamon water	2 "

Dose, 1 tablespoonful after each meal.

TONIC DRAUGHT.

Gentian root	1 ounce.
Calumba root	1 "
Bitter orange peel	1 "
Boiling water	1 quart.

Infuse till cold, then strain and add tincture of calumba and tincture of ginger, of each, one ounce. Dose, 3 tablespoonfuls three times a day.

TONIC MIXTURE FOR GENERAL WEAKNESS.

Extract rhatany root, 3 drachms, dissolve in infusion of buchu leaves 12 ounces, then add aromatic tincture of rhatany root one ounce, aromatic spirit of ammonia, 2 drachms. Mix. Dose, two tablespoonfuls every three hours.

TONIC PILLS

For weakness of the bladder and spermal debility.

Sulphate of quinine	1 scruple.
Powdered cantharides	10 grains.
Extract of aloes	1 drachm.
Extract of myrrh	1 "
Sulphate of iron	4 scruples.
Extract of gentian	4 "
Extract of dandelion	4 "
Oil of cajeput	10 drops.

Mix Divide into 125 pills. Dose, 1 or 2 twice a day.

TONIC PILLS FOR NERVOUS OR SPERMATORRHŒA DEBILITY.

Borax	2 scruples.
Musk	1 "
Ambergris	1 "
Extract of aloes	1 "

Extract of Indian hemp	10 grains.
Oil of cinnamon	10 drops.

Mix. Divide into 30 pills. Dose, 2 or 3, twice a day.

STOMACHICS.

These are medicines which stimulate or excite into action the mucus coats of the stomach.

DECOTION FOR INDIGESTION.

Gentian and calumba roots, each	1 ounce.
Water	3 quarts.

Boil down to half, strain; add compound tincture of cardamons, two ounces. Dose, a teacupful two or three times a day.

MIXTURE FOR WEAK STOMACH ATTENDED WITH NERVOUS HEADACHE.

Aromatic spirit of ammonia and compound tincture of gentian, each	½ ounce.
Infusion of cascarilla	7 ounces.

Mix. Dose, two tablespoonfuls 3 times a day.

PILLS FOR DYSPEPSIA.

Socorine aloes	1 drachm.
Powdered myrrh and rhubarb, each	2 drachms.
Oil of camomile	20 drops.
Extract of camomile	3 drachms.
Syrup of rhubarb	sufficient to mix.

Make into 125 pills. Dose, one or two before dinner.

STOMACHIC TINCTURE FOR WEAKNESS AND FLATULENCE.

Cinnamon and ginger bruised, of each half an ounce; capsicum pods, lesser cardamon seeds and caraway seeds, bruised, of each two drachms; proof spirit, one pint; infuse seven days, strain. Dose, a wine-glass twice a day.

PART XI.

Botanical Medical Practice.

As many of our friends may prefer the treatment of disease through the medium of herbs alone, we herein give, in addition to the herbal preparations in the previous parts, many other formula; and amongst them will be found the principal forms used by the best eclectic physicians and botanical medicine practitioners of America and Europe.

Alum Root, Crane's Bill, or Crow Foot.—A most powerful astringent, and in small doses is most valuable in secondary stages of diarrhœa and dysentery, in hemorrhages, and in piles, also in sore mouth and throat. A valuable local application in leucorrhœa, excoration of cervix, uteri, and in piles. Dose: of fluid extract, one to two drachms.

Anti-dyspeptic Powder.—Cayenne and golden seal, of each two ounces; saleratus, half an ounce—mix in powder. Dose: half a teaspoonful in hot water fifteen minutes after a meal, in indigestion, pain in the stomach, etc.

Anti-dyspeptic Pills.—Golden seal, powdered, three ounces; cayenne, five drachms; inspissated oxgall, Q. S.—mix; divide into five grain pills. Dose: two to four, three times a day. They rectify acidity and wind in the stomach, and regulate the bowels.

Anti-spasmodic Tincture.—Lobelia seed, powdered, one pound; valerian and cayenne, of each four ounces; Holland gin, one gallon—infuse ten days, closely stopped, shake once a day, then strain for use. Dose: a teaspoonful two or three times a day, in fits of all kinds—hysteria, hypochondria, hydrophobia, etc.

Balmony, or Snake Head.—Is an excellent bitter tonic and laxative, and is useful in costiveness, indigestion, loss of appetite, jaundice, worms, etc., given in infusions and other forms.

Bayberry.—A native of the New England States. The bark of the root is the part used in medicine; it is an astringent stimulant, is an excellent medicine for canker, also for bowel complaints, and if given freely at the commencement, is said to be a certain cure. The powder is given in teaspoonful doses, in water, sweetened; or a strong infusion, drunk freely. Taken every two or three hours.

Barberry.—The bark is the part used. It is a bitter tonic; improves the appetite, acts on the liver. Is taken in powder or infusion, similar to golden seal.

Bethroot, Wake Robin, True Love, or Jew's Harp.—The root is the part used. It is an astringent. Useful in all excessive discharges of the bowels, womb, or in bleedings internally of all kinds. The powdered root may be taken in infusion of one ounce to the pint for four doses.

Bitter Root, or Dog's Bane.—The bark of the root is the part used. It is a tonic, anti-spasmodic, and stimulant. A strong infusion, or decoction drunk in

small teacupful doses, every two hours, till it operates. Cleanses the stomach and bowels, and frees from bile.

Black Cohosh, Black Snakeroot, or Rattleweed.—The root is the part used. A syrup made of its decoction is useful for coughs; and a poultice, made by thickening the decoction with slippery elm, is useful in all kinds of inflammation

Boneset, Thoroughwort, Feverwort, or Indian Sage.—The leaves and flowers are used. It is a relaxant, sudorific, antiseptic, stimulant, diuretic, and tonic. The infusion of two ounces in one quart of boiling water, drunk freely. A teacupful every fifteen minutes (drunk warm), till it operates, will produce vomiting; for sweating, two tablespoonful doses every hour. As a tonic and laxative, a small teacupful of the decoction every two hours.

Bugle Weed, Water Hoarhound, or Betony.—Tonic, sedative and slightly astringent. It has a marked effect on the heart, reducing the velocity of the pulse. It is useful in diabetes, and will arrest bleeding from the stomach or lungs, and also will give relief in dyspeptic and all gastric derangements. It may be used in an infusion of leaves or stems, or in one to three grain doses of its active principle, Tycopin. The warm infusion aids perspiration and equalizes the circulation. It may be taken freely without producing unfavorable symptoms.

Burdock.—This is a common but valuable plant. The root is used. It is an excellent diuretic, and is given in dropsies and urinal diseases, in the form of decoction. Dried root of burdock, sliced, one ounce; water, two pints, boil down to half. This is to be taken in about six doses, in twenty-four hours, for dropsy.

Butternut, or White Walnut.—The inner bark, or the root is used. It is a mild, efficacious, tonic purge, and is recommended for derangement of the liver, costiveness, worms, and dysentry, also in lingering fevers. It is given in decoction, extracts, pills, syrups, etc.

Camomile, or Chamomile.—This well-known plant is a favorite domestic remedy for sick head-ache and stomach derangements. The strong infusion, drunk warm, is emetic; taken cold, in small half-teacupful doses, is stomachic.

Camomile Pills.—Extract of camomile, four drachms; camomile flowers, dried and powdered, two drachms; extract of gentian, two drachms; Turkey rhubarb (powdered), valerian (powdered), and best ginger (powdered), of each one drachm; oil of camomile, ten drops; syrup of ginger, Q. S. Mix 170 pills. Dose: three twice a day, as a stomachic, for headache, etc.

Canada Snake Root, Wild Ginger, or Colt's Foot.—A tonic, stimulant, diaphoretic and expectorant. The root is used. As a warm stimulant and nervine; useful in affections of the lungs, colds, asthma, croup, consumption, etc. The ordinary dose is a teaspoonful, in warm water, sweetened, thrice a day.

Canker, Compound for.—Bayberry, one ounce; white pond lily, one ounce; cayenne, two drachms; loaf sugar, half-a-pound—all finely powdered, sifted, and mixed. Dose: half-a-teaspoonful in honey, or molasses, twice or three times a day; and a teaspoonful put in a teacupful of boiling water, to gargle with. Useful in all cases of canker in the mouth, etc.

Cayenne Pills.—Cayenne (powdered), and best ginger (powdered), of each two drachms; angelica root (powdered), one drachm; syrup of ginger, Q. S. Mix 100 pills. Dose: two or three twice or thrice a day, as a warm stimulant to expel wind, warm stomach, etc.

Cholera, Diarrhœa, or Dysentery, Powder for.—Bayberry, golden seal, and rhubarb, of each one ounce; cinnamon and dried peppermint, of each half-an-ounce; saleratus, two drachms; powdered myrrh, one drachm; loaf sugar, three ounces—all well powdered, sifted, and mixed. Dose: put a teaspoonful of the powder in half-a-teacupful of hot water, add two teaspoonfuls of loaf sugar—when cool enough give two or thee tablespoonfuls every fifteen minutes, till the looseness, etc., is stopped, and relief is got; or—

Cholera, Diarrhœa, or Dysentery, Powder for.—Powdered catechu, six ounces; stomach bitters powder and best ginger, of each three ounces; cinchona bark and cinnamon, of each two ounces; valerian, cloves and cayenne, of each one

and a-half ounces; bayberry, and myrrh, of each one ounce—well powdered, sifted, and mixed. Dose: a teaspoonful in a cup of ginger tea, every ten minutes till relief is got.

Cholera, Diarrhœa, or Dysentery, Decoction or Syrup for.—Green peppermint, two ounces; bayberry, one ounce; white pond lily root, one ounce; water, three pints—boil down to two pints, and strain—pour the boiling liquor on the following ingredients: Powdered rhubarb, one ounce; powdered myrrh, two drachms; saleratus and cayenne, of each one drachm; loaf sugar, three ounces; when cold, bottle, and add best brandy, or rectified spirit of wine, four ounces. Dose: take half a wine-glassful every two hours, till relief is got.

Colic, Remedy for.—On two teaspoonfuls of composition powder, pour one pint of boiling water, stir together; when cool, add of tincture of myrrh and tincture of ginger, of each two drachms. Give a wine-glassful of this every ten or fifteen minutes. Apply a hot bran poultice to the part where the pain is, and administer an enema This course will mostly relieve.

Composition Powder.—1. Bayberry, two pounds; ginger, one pound; cayenne, cinnamon, and prickly ash, of each two ounces: or—2. Bayberry, three pounds; ginger, one and a-half pounds; cayenne and cloves, of each three ounces; or—3. Bayberry, six ounces; ginger, two ounces; pinus canadensis, cloves and cinnamon, of each half an ounce; cayenne, two drachms; or—4. Bayberry, eight ounces; poplar bark and ginger, of each four ounces; cloves, one ounce; cinnamon, half an ounce; cayenne, two drachms. Whichever is taken, it must he finely powdered, sifted, and well mixed. They are stimulant, carminative, tonic and nervine. The dose is a teaspoonful in a cupful of warm water, sweetened and made to palate, with milk or cream, and taken two or three times a day, when needed.

Comfrey —The root is used. It should be collected in early spring or late in the fall, cut into pieces, dried, and kept from damp air, as it deteriorates by long keeping. It is useful in coughs, consumption, dysentery, soreness of bowels, etc. Given in strong infusion, or powdered root, in half teaspoonful doses.

Conserve Stimulating, or Bread of Life.—Golden seal, prickly ash, poplar bark, and cinnamon, of each two ounces; cayenne, one ounce; loaf sugar, four pounds—all finely powdered and well mixed, kneaded to a stiff dough with mucilage of slippery elm, adding oil of pennyroyal and peppermint, of each two drachms; made into cakes of convenient size, and dried. May be eaten freely. Is useful for coughs, colds, hoarseness, and as a stomachic stimulant.

Consumption, Powder for.—Stomach bitters, cough powder, and diabetes powder, of each four drachms. Mix. Take a teaspoonful in a teacupful of hot water three times a day—taking cough pills and syrup also.

Cough Drops, or Syrup.—1. Lobelia herb, four ounces; hoarhound, comfrey, and elecampane, of each two ounces; boneset, four ounces; water, three quarts; boil to three pints—strain; add two pounds of loaf sugar and one pint of Holland gin. Dose: two teaspoonfuls every hour, in asthma, croup, consumption, etc. 2. Hoarhound, hyssop, polypoddy root, coltsfoot, linseed, elecampane, and liquorice, of each one ounce; aniseed, half an ounce; water, three pints, boil down to two—strain; add best molasses, two pounds; acid tincture of lobelia, four ounces. Boil slowly twenty minutes—skim—then add, when cold, tincture of ginger, one ounce; oil of mint, one drachm (put together these two to dissolve oil). Dose: from one teaspoonful to four tablespoonfuls four times a day, for coughs, consumptions, and most diseases of the lungs and bronchial tubes.

Cough Pills.—Gum ammoniac, one ounce; extract of lobelia, lobelia herb, cayenne, elecampane, and aniseed (powdered), of each two drachms—dissolve the gum and extract in a little hot water, then add the other ingredients in powder —mass with mucilage of gum arabic, Q. S. Mix 270 pills. Dose: one to three pills twice or thrice a day, in all kinds of coughs.

Cough Powders.—1. Slippery elm, one ounce; lobelia herb, prickly ash, skunk cabbage, wake robin, and valerian, of each half an ounce; cayenne, one drachm—powder well, and mix. Dose: half a teaspoonful, in hot water, sweeten-

ed, every three hours, for all coughs, consumption, etc. 2. Elecampane, liquorice powder, and skull cap, of each one ounce; polypoddy, angelica, and ginger, of each two drachms; lobelia herbs and aniseed, of each one drachm—powder and mix. Dose: a teaspoonful, same as composition powders, for coughs, hoarseness, etc.

Cramp of Stomach, Remedy for.—Spasmodic powder, a teaspoonful; pour on to it half a pint of boiling water, sweeten, let it settle, when cool, strain. Put ten drops of oil of mint into an ounce of tincture of ginger—mix with the infusion. Give a tablespoonful every ten minutes till relief is got.

Croup, Syrup for.—Lobelia, ginger, and cayenne, of each half a drachm; sugar, half a pound; boiling water, one pint—pour on, stir till sugar is dissolved, leave to settle—mix oil of peppermint, one drachm, with tincture of myrrh, one ounce—mix with the other. Dose: from a tea to a tablespoonful, according to age, half-hourly, till relief is got.

Curative Powder.—Composition powder, one ounce; barberry bark, half an ounce; white poplar bark, skunk cabbage, and dandelion root, of each two drachms; cloves, two scruples; cayenne, one scruple—all well powdered and mixed. Useful in stomach and liver complaints. It may be taken similarly to composition powder, two, three, or four times a day.

Diabetes, Powder for.—Bistort root, two ounces; comfrey root, Peruvian bark, and golden seal, of each, one ounce; white resin and tormentil root, of each half an ounce—all well powdered and mixed. Dose, a teaspoonful three times a day, in anything convenient.

Diuretic Powder.—Buchu leaves, one and a half ounces; parsley root and uva ursa, of each one ounce; kercuma and blue flag root, of each half an ounce; dandelion root and dwarf elder, inner bark, of each two drachms; cayenne, one drachm—powder all and mix well, then add oil of juniper, thirty drops. Taken same as composition powder, twice or thrice a day, for bladder affections, dropsy, etc.

Diuretic Syrup.—Queen of the meadow root, cleavers herb, burdock root, or seed, and juniper berries, of each four ounces; water, two pints, boil down to one, strain and press off, then add honey, two and a half pounds—simmer and skim; when cold, add one pint of the best Holland gin—bottle for use. Dose, three tablespoonfuls three times a day, in strangury, dropsy, etc.

Dock Ointment.—Sharp dock root, fresh got, sliced and bruised, one pound; pinus canadensis, two ounces; mutton suet, clarified, four ounces; lard, one and a half pounds—simmer all together on a slow fire two hours—strain; stir till cold. Useful for scurvy, scrofula, itch, etc.

Dropsy, Decoction for.—Blue flag root, parsley root, ginger, and juniper berries, of each one ounce; dwarf elder and buchu leaves, of each half an ounce; bruise roots and berries—boil in two quarts of water down to three pints; then add elder and buchu—boil ten minutes longer, strain, and press out. Take half a wine-glassful four times a day along with the diuretic powder and gravel pills, living well on dry stimulating food.

Dropsy, Powder for.—Queen of the meadow root and parsley root, of each one and a half ounces; buchu leaves, one ounce; uva ursa, ginger and cinnamon, of each, half an ounce—powder and mix well. Taken same as composition powder, twice or thrice a day, in dropsy and bladder affections.

Elm Poultice.—Slippery elm, two teaspoonfuls; lobelia herb and ginger, of each one teaspoonful—mix well with warm water. Useful in all cases of pain and inflammation.

Emetic Powder.—Lobelia herb, lobelia seed, and cayenne, of each, two ounces; bayberry and valerian, of each one ounce—all finely powdered and well mixed. Dose: put four teaspoonfuls in a cupful of hot water—leave to settle. Give four teaspoonfuls of the tea every ten minutes, until it operates freely as an emetic.

Erysipelas, or St. Anthony's Fire, Decoction for —Yarrow, boneset, figwort, wood sage, meadow sweet, and composition powder, of each half an ounce; water,

two quarts, boil down to three points—strain—sweeten with coarse sugar to taste. Dose: a wine-glassful every ten minutes till the patient sweats freely, and the slippery elm poultice may be applied to the painful part—will soothe the irritation.

Excess of Menstruation, or Flooding, Remedy for.—Archangel crane's bill, meadow sweet, raspberry leaves, and bistort root (bruised), of each one ounce; cloves (bruised), two drachms; water, three pints, boil down to one quart—strain, and add whilst hot, female restorative powder, half an ounce, and stomach bitters, two drachms—boil a few minutes, strain through muslin, and add white sugar, half a pound. Take a wine-glassful four times a day; half an hour before meals.

Females, Cordial for.—Partridge berry vine, three ounces; high cranberry, unicorn root, and blue cohosh, of each one ounce; water, two quarts, boil down to one—strain, and add fine sugar, half a pound; best brandy, twelve ounces. Given to pregnant females about a fortnight before the expected time of confinement; it strengthens much both mother and child. Dose: from half a wine-glassful to a whole one, twice during the day, and at bed time in a little warm water—it eases during labor.

Female Corrective Pills.—Germander and tansey flowers (dried and powdered), unicorn root, myrrh, and socotrine aloes, of each two drachms; cayenne, one drachm; oil of mint, pennyroyal, and thyme, of each five drops; strong infusion, or juice of mugwort, Q. S. to mix with—165 pills. Two night and morning. Are very useful in female obstructions, or suppression of menses.

Female Restorative Pills.—Kino, white resin, bistort root, myrrh, socotrine aloes, and cloves, of each two drachms; tincture of kino, Q. S—mix 180 pills. Dose: two taken twice or thrice a day for profuse menstruations, whites, etc.

Female Corrective Powders.—I. White poplar bark and bayberry, of each one ounce; ginger, six drachms; cloves, cinnamon, and golden seal, of each four drachms; myrrh, two drachms; cayenne, one drachm—all finely powdered and well mixed. A teaspoonful taken four times a day—in pennyroyal, feverfew, tansey tea, or the like—in obstruction of menses, and similar diseases; or—II. Myrrh, tansey flowers, unicorn, and cayenne, of each four ounces; socotrine aloes, four drachms finely powdered, sifted, and well mixed. Dose: half a teaspoonful three or four times a day, in honey or molasses, in obstructed or suppressed menses.

Female Restorative Powders.—I. Poplar bark, comfrey root, and tormentil root, of each two ounces; marsh-mallow root, white pond lily, balmony, and cloves, of each one ounce; catechu and bistort root, of each four drachms; cayenne, two drachms—all powdered and sifted. Dose: a teaspoonful in a teacupful of hot water, sweetened, two, three, or four times a day. in whites, excessive menstruation, and general debility. II. Poplar bark, eight ounces; witch hazel leaves, one and a half ounces; bethroot, one and a half ounces; cloves and cinnamon, of each one ounce; cayenne, six drachms; loaf sugar, one pound—powder and mix. Dose: a teaspoonful in half a teacupful of warm water three times a day, for all female relaxations, weaknesses, bearing downs, whites, and excessive menstruations. III. Comfrey root, two ounces; elecampane, two ounces; white resin, one ounce; fine sugar, eight ounces—powder and mix. Dose: a teaspoonful once a day, in hot water. An excellent remedy against whites, etc.

Female Restorative Strengthening Syrup.—I. Comfrey root, marsh-mallow root, poplar bark, bistort root, white pond lily, cloves, and ginger, of each one ounce; water, two quarts, boil down to three pints—strain—add loaf sugar, one pound—boil ten minutes and skim; then add French brandy, one pint; or—II. Comfrey root, four ounces; elecampane root, two ounces; hoarhound, one ounce; water, three quarts, boil down to three points—strain, and add powdered bethroot, half an ounce; loaf sugar, one pound; brandy, one pint. Dose: three or four tablespoonfuls three or four times a day, in whites, bearings down, general debility, barrenness, etc.

Fevers, Remedy for—Clear the stomach and bowels with a few doses of Indian pills, or some other medicine, then make the following decoction: Take

boneset, vervain, yarrow flowers, angelica herb, and meadow sweet, of each one ounce; water, two quarts, boil down to three pints—then strain, and add powdered angelica root, four drachms; powdered crawley root, two drachms; cayenne one drachm—boil ten minutes longer—strain. Let the sufferer have a warm or vapor bath, then go to bed, taking four tablespoonfuls of the above decoction every hour till perspiration is excited. When the fever is overcome, and the symptoms removed, let the following be taken:

Fever, Tonic Decoction for after.—Angelica, centuary, agrimony, hoarhound, meadow sweet, camomile, and juniper berries, of each one ounce; water, five pints, boil down to three—strain—add golden seal, myrrh, and composition powder, of each two drachms—boil ten minutes longer—strain—add rectified spirit of wine, or brandy, twelve ounces. Dose: a wine-glassful four times a day.

Flax, Common.—The seed is used in medicine under the name of linseed; also the oil expressed therefrom. The infusion of the seeds, or linseed tea, is a very useful demulcent in coughs, colds, strangury, and bladder affections. The meal, made of the seeds, is used for poultices, etc.; and the oil in ointments, liniments, etc.; or if taken inwardly it purges gently, and may be taken as follows:

Flaxseed, Emulsion of.—Linseed oil, two ounces; yolks of four eggs—mix together—then add tincture of rhubarb and tincture of ginger, of each four drachms, syrup of buckthorn, one ounce; peppermint water, to make up twelve ounces—stir till well mixed. Dose: two or three tablespoonfuls at night, or early in the morning, is very useful in habitual costiveness.

Fumitory.—Useful against scurvy and liver complaints; jaundice, and the like. The juice is best, but a strong decoction will answer.

Fumitory, Compound Decoction of.—Fumitory, dandelion roots, and liquorice, of each two ounces; water, two quarts, boil down to one quart. A teacupful night and morning, for scurvy, liver affection, jaundice, and to remove visceral obstructions generally.

Ginger, Syrup of, Compound.—Ginger, sliced and bruised, one ounce; angelica root, sliced and bruised, half an ounce; peppermint, half an ounce; boiling water, one point—infuse in a warm place an hour—strain it, press off, add sugar, two pounds—simmer and strain. Dose: a tablespoonful when required. Is useful for a pain in the stomach, wind, colic, and the like.

Golden Seal or Yellow Puccoon.—The root is used. It is a bitter stimulant tonic. Useful in debility, indigestion, etc. A strong decoction is used as a stimulant wash to sore eyes, old sores, ulcers, etc.

Gonorrhœa, Pills for.—Canada balsam of fir, one ounce; oil of cubebs, thirty drops; liquorice root, Q. S. to mass with, divide into five grain pills. Two taken three times a day.

Gravel and Stone, Decoction for.—Pareira brava root, blue flag root, dandelion root, of each one ounce, sliced and bruised, juniper berries, bruised, one ounce; dwarf elder, with carrot, and parsley piert, of each half an ounce; golden seal root, half an ounce; water, two quarts, boil in it roots and berries till reduced to three pints, then add the herbs, boil ten minutes longer, strain, and press off, mix one ounce of compound spirit of horse-radish with oil of juniper, one drachm, and when the decoction is cold put them in it. Dose: a wine-glassful four times a day.

Gravel and Stone, Pills for.—Extract of dandelion, parsley root, buchu leaves, and wild carrot, of each half an ounce; oil of juniper, one drachm; balsam of fir, Q. S., mix, divide into five grain pills. Dose: two three times a day, with the above decoction, is very useful.

Headache Snuff.—Bayberry and sassafras bark, of each one ounce, blood root, half an ounce—powder and mix. Dose: a pinch to be taken occasionally.

Healing Salve.—Beeswax, common turpentine, balsam of fir, and fresh butter, of each, two ounces—melt, simmer gently, and stir till cold. To dress sores with.

Healing Cleansing Salve.—Burgundy pitch, six ounces; ripe onions, sliced,

and molasses, of each four ounces; lard, six ounces; beeswax, six ounces, boil over slow fire about half an hour, strain, and add olive or linseed oil, two, ounces stir till cold. This is a useful stimulating dressing for sluggish ulcers and sores.

Healing Salve, Burgundy Pitch.—Hog's lard and clarified mutton suet, of each four ounces; beeswax and olive or linseed oil, of each two ounces; simmer all together in a water bath or oven—stir till cold. Very useful after burns, scalds, etc.

Healing Softening Salve.—Linseed, or olive oil, four ounces; white wax, two ounces; spermaceti, one ounce; balsam of fir, half an ounce—melt together, and stir till cold. Useful for sore nipples, chapped hands or face, to anoint with.

Healing Drawing Plaster.—Mutton suet, clarified, four ounces; white resin, brown sugar, and brown soap, of each half an ounce—simmer altogether—strain, and stir till cold. Is a useful dressing for sore legs, sluggish ulcers, etc. Wash over with tincture of myrrh, and dress with this twice a day. Is said to have worked wonders.

Hemlock Tree.—The bark is used. It is called the *pinus canadienses*. It is an astringent stimulant. An essential oil is extracted from it which is used in combinations to rub with in rheumatisms, etc., etc.

Hepatic, or Liver Pills.—I. Extract of dandelion, four drachms; socotrine aloes and best flour of mustard, two drachms; cayenne, one drachm; mucilage of gum arabic, Q. S.—mix 135 pills. II. Blood root, golden seal, and socotrine aloes, of each two drachms; kircuma and mandrake, of each one drachm; extract of dandelion, four drachms; syrup of ginger, Q. S.—mix 180 pills. Either of these is useful for chronic affections of the liver, jaundice, etc. Dose: two twice or thrice a day.

Hysteria, Hypochondriac, or Nervine Pills.—I. Assafœtida, half an ounce; powdered valerian, myrrh, and socotrine aloes, of each two drachms; mucilage of gum arabic, Q. S.—mix 150 pills. II. Assafœtida, four drachms; skull cap and valerian, of each two drachms; rhubarb, myrrh, socotrine aloes, and cayenne, of each one drachm; syrup of rhubarb, Q. S.—mix 195 pills. These are good for all nervous and spasmodic diseases, low spirits, and the like. Dose: two night and morning.

Indian Pills.—I. Lobelia seed, cayenne, valerian, and extract of dandelion, of each four drachms; slippery elm, two drachms; mucilage of slippery elm, Q. S.—mix 270 pills. Dose: one, two, or three at night, in constrictions, headache, fevers, and liver complaints. II. Extract of butternut, powdered rhubarb, and golden seal, of each two drachms; lobelia seed, cinnamon, and cayenne, of each one drachm; socotrine aloes, half a drachm; slippery elm, four drachms; mucilage of gum arabic, Q. S.—mix 200 pills. Useful purgative. III. Rhubarb and socotrine aloes, of each six drachms; tumeric and ginger, of each four drachms; lobelia herb, one drachm; cayenne, half a drachm; syrup of ginger, Q. S.—mix 320 pills. A purgative. These two latter are useful forms of pills for all biliary obstruction, indigestion, flatulency, and most stomach complaints where purgatives are needed. Dose: one or two twice a day until they operate freely.

Indigestion, Tonic Draught for.—Tansey, wormwood, quassia chips, barberry bark, sweet flag root, and buchu leaves, of each two drachms; water, three pints, boil down to two—strain, then add cayenne, ten grains; Spanish juice, broken, one ounce—simmer till juice is dissolved—strain—bottle for use. Three tablespoonfuls three times a day.

Inflammation of Eyes, Lotion for.—Green tea, ground ivy, and rasberry leaves, of each half an ounce; water, one and a half pints, boil down to a pint, and strain. When cold, add tincture of myrrh, one ounce. Bathe the eyes with this three times a day.

Inflammation of Stomach, Decoction for.—Marsh-mallow root and comfrey root, of each one ounce; raspberry leaves and ginger, of each half an ounce; water, three pints, boil down to a quart, and strain—then add cayenne, one drachm—sweeteen to taste. Give a small teacupful frequently to provoke perspiration. Take tonics after.

Inflammation of Bowels, Decoction for.—Peppermint, yarrow, and queen of the meadow, of each one ounce; camomile and ginger, of each half an ounce; water, three pints, boil down to a quart, strain, and whilst hot pour the liquor on to composition powder and cinnamon powder, of each two drachms—leave to cool and settle. Put oil of peppermint, twenty drops; essence of camphor, ten drops; and tincture of myrrh, four drachms—when oil is dissolved mix with the liquor—bottle for use. Dose: two to four tablespoonfuls half-hourly till perspiration is produced.

Inflammation of Kidneys, Decoction for.—Dwarf elder, juniper berries, yarrow, buchu leaves, and golden rod, of each one ounce; water, two quarts, boil down to three pints—strain. Pour it on to diuretic powder, half an ounce; cayenne, five grains—sweeten. Take three or four tablespoonfuls till perspiration is excited freely.

Inflammation of Liver, Acute, Decoction for.—Meadow sweet, yarrow, and summer savory, of each one ounce; water, three pints, boil twenty minutes, strain. Add cayenne, thirty grains. Dose: a wine-glassful every ten minutes till perspiration is excited.

Inflammation or Liver (Chronic or Liver Complaint), Decoction for.—Barberry bark, agrimony, meadow sweet, buckbean, dwarf elder, and hoarhound, of each half an ounce; water, three pints, boil down to a quart—strain. Put into the liquor extract of dandelion, curative powder, kircuma and Spanish juice, broken, of each half an ounce—boil five minutes longer, strain, bottle for use. A wine-glassful taken four times a day, taking at the same time the liver pills and curative powders.

Inflammation of the Lungs, Decoction for.—Hyssop, summer savory, and vervain, of each one ounce; cough powder, lobelia syrup, and Spanish juice, broken, of each half an ounce; cayenne, thirty grains; water, three pints—boil the herbs till reduced to a quart, then strain. Add the other ingredients, boil five minutes longer, strain. A wine-glassful taken every ten minutes till perspiration is excited, applying externally a stimulating poultice, or the like.

Injection Powder.—Bayberry and lobelia herb, of each four ounces; slippery elm and valerian, of each two ounces; cayenne, one ounce—all finely powdered and mixed. To use: two teaspoonfuls infused in six ounces of hot water, injected when about blood warm. A stimulant enema.

Itch, Wash for.—Tincture of myrrh and tincture of lobelia, of each eight ounces; spirit of turpentine, four ounces—mix. Apply all over the body night and morning.

Jaundice, Decoction for.—Barberry bark and dandelion roots, of each one ounce; kircuma root, centuary, gentian, and dwarf elder, of each half an ounce—boil roots and bark in two quarts of water, down to three pints; then add herbs—boil ten minutes longer, strain, and pour whilst hot upon golden seal, powdered, half an ounce; cayenne, one drachm; Spanish juice, broken, one ounce, when juice is dissolved, bottle for use. Dose: four to six tablespoonfuls three times a day, with liver pills.

Liniment for Gathered Breasts.—Linseed oil, eight ounces; olive oil, two ounces; camphor, half an ounce; dissolve camphor with olive oil, then mix with the other oil. Apply on a cloth, frequently wetting it with the oil.

Liniment of Camphor.—Olive oil, eight ounces; ripe onions, sliced, half an ounce, simmer oil and onions together five minutes, strain, and add camphor, two ounces, rub till dissolved. Is very useful to rub the throat with in quinsies, and applied to scrofulous swellings and tumors.

Liniment for Cramp, etc.—Whiskey or rum, eight ounces; cayenne, half an ounce; heat spirit, then pour on the cayenne. Cloths dipped in this applied to the affected part, as on the body in cholera cases, will speedily give ease.

Liniment of Hartshorn.—Spirit of hartshorn, two ounces; sweet oil, eight ounces; cayenne, one drachm—mix, cork up, and shake daily for a week. Useful for sprains, bruises, etc.

Liniment, Stimulating.—Oil of hemlock, oil of cedar, and oil of mint, of each one ounce; spasmodic tincture, one pint, mix. Useful for all pains without inflammation, paralysis, etc.

Lobelia, Acid Tincture of.—Lobelia seed, powdered, four drachms; lobelia herb, powdered, one and a half ounces; cayenne, thirty grains; best vinegar, one pint, boil the vinegar, gradually rub in with powders, bottle, shake up daily for a week, then strain for use. Is emetic in teaspoonful doses, in pennyroyal tea every twenty minutes till it operates. Useful for asthma, etc., in ten to twenty drops doses every two or three hours.

Lobelia, Pills of.—Extract of lobelia, lobelia herb, powdered, and liquorice powder, of each, four drachms; cayenne, two drachms; mucilage of gum arabic, Q. S.—mix 420 pills. Dose: one to three three times a day in asthma, etc.

Menstruation, Retained, Obstructed, or Suppressed, Decoction for.—Germander, mugwort, southernwood, pennyroyal, feverfew, tansey, blessed thistle, and female corrective powder, of each half an ounce; water, two quarts, boil down to three pints, strain and press off; then add Spanish juice, broken, one ounce, stir till dissolved, then add essence of pennyroyal, one drachm. Three tablespoonfuls to be taken four times a day with the female corrective at the same time.

Palpitation of the Heart, Decoction for.—Black hoarhound, motherwort, rue, blessed thistle, and mugwort, of each one ounce; water, two quarts, boil down to three pints—strain, and add whilst the liquor is hot, skullcap and spasmodic powder, of each two drachms—mix well together. Take three tablespoonfuls four times a day, taking the nervine pills.

Piles, Decoction for.—Marsh-mallow root, bistort root, comfrey root, white poplar bark, crane's bill, and yarrow, of each one ounce; cloves and cinnamon, of each two drachms; water, two quarts—bruise the roots and boil in the water twenty minutes, then add the herbs, cloves, and cinnamon—boil ten minutes longer, strain. Sweeten with sugar. Take a wine-glassful four times a day, using one of these ointments.

Piles, Ointments for.—I. Hemlock bark, finely powdered, one ounce; fresh lard, six ounces, mix well. Apply to the part. II. Yarrow flowers and raspberry leaves, of each one ounce; hemlock bark, two drachms; lard, half a pound, simmer together half an hour, strain and press off, and stir until cold. Very useful applied to the piles three or four times a day.

Pluerisy Root or Butterfly Weed.—The root is used. It is diaphoretic, expectorant, and anti-spasmodic, and is therefore useful in coughs, pleurisy, colic, flatulence, and to promote perspiration. It may be given in decoction, or powder, a teaspoonful at a dose, in some warming herb tea every two hours, till relief is got.

Poplar.—The bark of this well-known tree, especially the tremulous kind, contains many valuable properties similiar to Peruvian bark and willow bark, and may be given in similiar forms and for similiar purposes as Peruvian bark, but in rather larger doses. Its qualities are bitter, diuretic, astringent, tonic, and slightly stimulant.

Poultice for External Inflammations.—Ripe onions, boiled to pulp, one pound; bran, Q. S. for a poultice—pour the onions and liquor they have been boiled in on to the bran whilst hot. Mix well and apply. A very useful poultice.

Poultice, Stimulating, for Internal Inflammations.—Mustard flower and ginger, powdered, of each four drachms; cayenne, two drachms; oatmeal, two ounces—mix till dry; then add boiling vinegar, Q. S. for a poultice. Apply to the part from ten to thirty minutes, dress after with pure lard or simple ointment.

Poultice for Soothing and Softening.—Slippery elm bark, powdered, one ounce; marsh-mallow leaves, cut into pieces, one ounce; linseed meal, Q. S. for a poultice. Boil the leaves in water, mix in the powder and meal, grease with lard and apply. Useful for scrofulous swellings, gathered breasts, and hard inflammatory swellings.

Prickly Ash, Toothache Bush, or Yellow Wood.—The bark and seed vessels are used. They are diaphoretic and stimulant, used in rheumatic fever and ague. It is given in the form of powder in ten to twenty grain doses every three or four hours Also, in form of decoction thus made: bark of prickly ash, bruised, one ounce; water, two points—boil twenty minutes and strain. Dose, warm: one to two teacupfuls every four hours.

Queen of the Meadow, or Gravel Root.—The root of this plant is used. It is a powerful diuretic, useful in all obstructions of the urinary organs. Used in strong decoction, drunk freely.

Quinsy, or Inflammatory Sore-throat, Decoction for.—Raspberry leaves, hyssop, red sage, summer savory, hoarhound, and ground ivy, of each half an ounce; water, three pints—boil twenty minutes, strain whilst hot on to ten grains of cayenne; when cold add tincture of myrrh and acid tincture of lobelia, of each half an ounce. Dose: three or four tablespoonfuls every hour, fomenting and gargling, till relief is got.

Red Raspberry.—The leaves of this well-known fruit possess valuable astringent properties, useful in bowel complaints; also a wash for sore nipples. Used in strong infusion and drunk freely. The fruit made into raspberry vinegar forms, with water, a pleasant, cooling drink in fevers, and is anti-scorbutic.

Rheumatic, Liniment for.—Cayenne, two drachms; bay salt, one ounce; best vinegar, one pint—boil the vinegar, pour on the cayenne and salt, shake together, leave to cool. Dissolve one drachm of oil of organum in one ounce of tincture of myrrh—put in the vinegar, etc., when cold. Useful stimulant to rub with in rheumatism, palsy, tic doloreux, etc. To be rubbed with or applied on a cloth.

Scrofula or Scurvy, Purifying Powder for.—Sarsaparilla, powdered, and wintergreen, powdered, of each four ounces; dock root, powdered, dandelion root, powdered, sassafras root bark, powdered, uva ursa, and ginger, of each two ounces; cloves, one ounce—all to be finely powdered, sifted, and mixed. A teaspoonful taken three times a day in fumitory or dandelion tea. Is excellent in all skin diseases and as a purifier of the blood.

Scrofula or Scurvy, Purifying Decoction for.—Yellow dock root, dandelion root, sarsaparilla, and winter green, of each two ounces; blue cohosh, one ounce; water, four pints, boil down to three pints—strain; when cold add Holland gin, one pint. Dose: a wine-glassful to be taken once a day as a gentle purifier.

Scrofula or Scurvy, Alterative Purifying Powder for.—Sarsaparilla and ginger, of each one ounce; rhubarb, burdock, wintergreen, and dandelion root, of each half an ounce—powder all well, and mix.

Scrofula or Scurvy, Purifying Powder for.—Sassafras bark, rhubarb, comfrey root, and dock root, of each one ounce; sarsaparilla and cubebs, of each half an ounce; cayenne two drachms—all finely powdered, sifted and mixed. Dose: a tablespoonful in about three-quarters of a pint of boiling water. Sweeten to taste and take a teacupful occasionally in all skin diseases, gonorrhœa gleets, etc., etc.

Scrofula, or Anti-venereal Powder.—Diuretic powder, four ounces; cubebs, sassafras root and mandrake, of each two ounces; gum guiacum, prickly ash, and sarsaparilla, of each one ounce; lobelia herb and gum kino, of each four drachms, powder all and mix, then drop in ten drops each of oil of juniper, oil of rosemary, and balsam of copaiba—rub till well mixed. Dose: a teaspoonful three or four times a day in a little water. Useful in skin diseases, gleets, gonorrhœa, and most venereal cases.

Scrofula, Scurvy, or Anti-venereal Pills—Blue flag root, one ounce; lobelia seed, four drachms; mandrake, mezerion root, and cayenne, of each two drachms; water, one and a half pints—boil on a slow fire down to a pint—strain off and express the juice, evaporate slowly to proper consistence for pills, then mix in extract of sarsaparilla, four drachms; add tincture of myrrh and liquorice powder, Q. S. for pills—one drachm must be divided into twelve pills. Dose; one

three times a day is useful in all impurities of the blood and fluids; also in all venereal affections.

Scrofula, Scurvy, and Anti-venereal Syrup.—Sarsaparilla, four ounces; guiacum chips, three ounces; blue flag root, liquorice, and dog mercury, of each one ounce; prickly ash bark, four drachms; water, three pints, boil down to two pints—strain off and express, then add loaf sugar, two pounds, simmer and skim—when cold pour off the clear syrup. Dissolve oil of sassafras, two drachms, in one ounce of tincture of myrrh and add to the syrup. Three tablespoonfuls taken with the preceding pills is excellent in all impurities of the blood, skin diseases, venereal affections, etc.

Scrofula, Scurvy, and Anti-venereal Ointment.—Lard, one pound; mutton suet, four ounces; mandrake root, bruised, two ounces mezerion bark, one ounce blood root, powdered, and prickly ash, bruised, of each two drachms; lobelia seed, one drachm—simmer all together on a slow fire for an hour—then strain and press off. A useful ointment for all venereal sores, chancres, etc., as well as scurvy sores.

Skullcap, Hoodwort, or Blue Pimpernell.—This herb is a tonic, anti-spasmodic, and nervine. Useful in all nervous affections. The warm effusions may be drunk freely, or a heaped teaspoonful of the powdered leaves, with as much sugar, put into a teacupful of boiling water and taken for dose. Repeated three or four times a day as may be needed.

Skunk Cabbage.—Dracontium, narcotic, stimulant, anti-spasmodic and expectorant Useful in chronic, rheumatism, asthma, chronic catarrh, whooping cough, hysteria, and dropsy. In large doses it causes vomiting, vertigo, and dimness of sight. Dose of the powders 5 to 15 grains, of the fluid extract 20 to 60 drops.

Slippery Elm.—The bark of this tree is very useful as a softening demulcent in coughs, bowel complaints, strangury, sore throats, etc. It may be taken in infusion, and externally is used in poultices for cleansing and healing foul sores.

Soap Wort, or Bouncing Root.—A decoction of this herb, prepared similarly to sarsaparilla, is said to be equal to that as a purifier of the blood, therefore useful in similar cases, skin diseases, jaundice, visceral obstructions, gout, rheumatism, syphilis, etc. The whole plant, root and all, are used. The dose is a wineglassful three times a day, gradually increased until a pint and a half is taken during the day.

Solomon's Seal. Seal Root or Drop Berry.—The root of this plant, bruised, is an excellent application to bruises from blows, black eyes, etc. The leaves dried and powdered possess astringent and anti-dysenteric properties; and beaten into a conserve whilst green, with sugar, is useful for whites, gleets, etc. The seeds are purgative and emetic, in doses of from twelve to fourteen grains. Whilst the leaves in small doses are astringent, in larger ones, such as half a drachm of the powder, they operate as a purgative.

Spasmodic Powder.—Stomach bitters, two ounces; valerian root, powdered, one ounce; skullcap and burdock seeds, powdered, of each four drachms; lobelia herb, cinnamon, powdered, and cayenne, of each two drachms—sift and mix well together. Thirty grains may be taken every two hours in hot mint, pennyroyal, or yarrow tea, in cramps, spasms, convulsions, or the like.

Spiced Bitters.—I. Poplar bark, six ounces; prickly ash bark, three ounces; balmony, golden seal, ginger, and cloves, of each two ounces; cayenne, one and a half ounces; cinnamon, one ounce; fine sugar, one pound—powder all and mix; or—II. Poplar bark, golden seal, and ginger, of each one ounce; balmony, cloves, and prickly ash, of each four drachms; cinnamon, two drachms; Turkey rhubarb and cayenne, of each one drachm; fine sugar, three ounces—powder all, sift, and mix well. A tonic stomachic useful in indigestion, loss of apetite, colic, jaundice, and general debility. Dose: a teaspoonful of the powder three times a day an hour before meals, taken either dry and washed down with cold water, or in half a teacupful of warm water.

Spitting of Blood, Pills for.—Extract of henbane, two drachms; powdered

foxglove and powdered opium, of each one scruple—mix, divide into 40 pills. After opening the bowels take two of these pills at bed time, washing down with infusion of bramble leaves or roots, acidified with elixir of vitriol and sweetened, or with infusion of roses.

Stomach Bitters.—I. Cayenne and golden seal, of each one ounce; salaratus, two drachms—mix in powder half a teaspoonful in half a teacupful of hot water, about fifteen minutes after eating. Useful in pain of stomach caused by eating. II. Balmony, one ounce; white poplar bark, bayberry, and ginger, of each one and a half ounces; cinnamon, half an ounce; cayenne, two drachms—powder and mix a teaspoonful as last for indigestion. III. Poplar bark, five ounces; golden seal and barberry, of each two ounces; ginger, one and a half ounces; prickly ash, four drachms; balmony, two drachms; cloves, six drachms; cayenne, three drachms—mix well. Dose: as the preceding, and for similar purposes.

Strengthening Plaster.—Rosin, one pound; beeswax and mutton suet, of each one and a half ounces; camphor, half an ounce; brandy, two ounces; oil of hemlock, two drachms—melt wax and tallow, then add camphor—stir till dissolved, then add oil of hemlock, last the brandy gradually. Useful for pains in back, sides, etc.; also for rheumatism or weakness or pain in any part where it can be applied; also for old sores, ulcers, etc.

Sudorific Powders.—Lobelia herb, skunk cabbage, pleurisy root, and crawley root, of each one ounce. Dose: fifteen to twenty grains every hour in some warming tea till perspiration is induced. Is useful in all cases of fevers, and coughs, colds, etc.

Tincture of Balsam of Canada.—Balsam of fir, one ounce; gum arabic, powdered, half an ounce—rub up with spirit, gradually till dissolved—bottle for use. Dose: a teaspoonful two or three times a day in cubeb tea. Is very useful for gleets, whites, gravel, and most bladder affections.

Tincture of Burdock, etc., Compound.—Burdock seed, powdered, lobelia seed, powdered, skullcap and myrrh, of each, two ounces; cayenne, four drachms; prickly ash bark, two drachms; spirit of wine, one quart—infuse seven days, strain. Dose: from ten drops to two drachms twice or thrice a day, in hot water, as a nervine, in all hysterical affections, delirium tremens, spasms, lockjaw, etc.

Tincture of Ginger Compound.—Ginger, sliced and bruised, two ounces; aniseed, powdered, one ounce; cloves, powdered, four drachms; spirit of wine, one pint—infuse seven days, shaking daily, then strain. Useful carminative stomachic in wind and pain of stomach, colic, etc., in one to four teaspoonful doses, in water.

Tincture of Guiacum and Sassafras.—Gum guiacum, powdered, two ounces; sassafras root bark, powdered, one ounce; spirit of wine, one pint—infuse fourteen days, strain. A useful purifier in skin diseases, scrofula, scurvy, syphilis, and in rheumatic cases Dose: one to four teaspoonfuls in water, or with other ingredients.

Unicorn Root, or Devil's Bit.—The powdered root of this plant is a useful tonic stimulant, given in fevers, in thirty to sixty grain doses.

White Pond Lily, or Cow Cabbage.—The root of this plant is a mild astringent. Useful in diarrhœa, dysentery, etc, in teaspoonful doses, and taken in warm water, sweetened.

Wine Bitters.—Poplar bark, one pound; balmony and golden seal, of each four ounces; unicorn, three ounces; cayenne, one ounce; water, ten pints, boil down to eight pints—strain—add sugar, five pounds; boil again five minutes. Infuse in three gallons of Malaga or sherry wine, three ounces of prickly ash berries, and four ounces of powdered cinnamon, for three days in a close vessel—strain off and add to the above decoction—bottle for use. A wine-glassful three times a day is useful in general debility, indigestion, loss of appetite, etc.

Worm Syrup.—Butternut bark and bitter root, of each four ounces; sage, myrrh and poplar bark, of each two ounces; water, one gallon, boil down to half—strain, add fine sugar, three pounds, and half a pint of Holland gin. Dose: four teaspoonfuls every hour till it acts freely on the bowels.

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